

Message from the President

Creating a path toward carbon neutrality and a hydrogen society as envisioned in “BLUE MISSION 2050”



Our Mission

Find practical solutions in the energy sector's increasingly complex business environment with our extensive technological skills

As of June 2023, I have taken up the mantle of president of J-POWER. Through the implementation of J-POWER “BLUE MISSION 2050,” which was announced in February 2021, I believe we will support our Company's mission of providing a stable supply of energy accessible to everyone and at the lowest possible cost as we simultaneously contribute to the realization of a carbon-neutral society both in Japan and around the world.

While this mission's significance has been reaffirmed in recent years, its difficulty has increased with the complexity of the energy sector. The need for CO₂-free energy is rising amid mounting public pressure to combat climate change. However, the introduction of significant amounts of renewable energy sources, such as wind and solar power, will necessitate changes to power systems, transmission and transformation networks, with each nation obligated to adopt a path of change appropriate to its own specific national circumstances. Furthermore, as renewable energy is very dependent upon local natural resources, development must meet each region's particular requirements. The conversion of thermal energy sources to CO₂-free power sources is necessary to combat climate change, and also because thermal energy is subject to supply volatility and resource price changes resulting from global geopolitical threats. As systems that balance global requirements with national realities and technologies that balance renewable and thermal energy are all still under development, we remain committed to innovation.

We believe that the energy industry, both in Japan and overseas, is undergoing significant upheaval. As the COVID-19 pandemic eased in 2023, people's lives have begun returning to normal, which will boost both the economy and demand for energy. This increased need for a reliable energy supply and a response to climate change marks the start of a new challenge. We will carry out our unwavering mission by listening carefully to our stakeholders, integrating ourselves into the community, fostering people, and providing sustainable energy, even in the face of an uncertain future caused by the complex business climate.

H. Kanno

Representative Director
President and Chief Executive Officer

Message from the President

Our Strengths

Between 2020 and 2022, J-POWER has developed an additional 3 million kW of generation capacity from renewable energy (including solar, wind, and geothermal energy) and thermal power, in Japan and overseas. I believe that the Company's business foundation has expanded. Never before have so many different types of power sources been created on such a vast scale in so little time. J-POWER has built and operates a wide range of power sources around the world, as well as transmission and transformation facilities that link various parts of Japan. Over time, we have amassed integrated capabilities as a result of our ongoing development of the power supplies that the times demand.

Our integrated capabilities include not only engineering technology, but also the technology to ensure the stable sales of electricity and how to engage with the local communities when constructing power plants. Engagement with local communities is crucial when utilizing power sources like renewable energy, which relies on local natural energy. We cannot move forward with development without being mindful of how the power plants we create are seen by the local communities because once a power plant is constructed, it remains with the community for decades.

We consider our integrated capabilities to be one of our greatest strengths and will hasten the transition of our power sources to carbon neutrality, which we believe will be the key to our future development. These capabilities allow us to develop power sources and then continue to deliver electricity to our customers in a stable manner over an extended period of time.

According to the Basic Energy Plan adopted by the Japanese government, hydroelectric power generation will make up around 10% of the mix of energy sources in 2030, with renewable energies making up the remaining 36-38%. Accelerating new development is necessary, as is making sure that outdated hydroelectric power facilities are renovated.

The NEXUS Sakuma Project, which was announced in 2022, aims to renovate and upcycle the Sakuma Power Plant, where J-POWER got its start, as well as to create more added value.

The development of renewable energy, however, takes time. We must actively engage with the local community and encourage appropriate development. Additionally, Japan's land constraints and dearth of suitable sites make



the development of renewable energy increasingly challenging. We anticipate offshore wind power will be developed as a large-scale renewable energy source, and the electricity sales system will change from a fixed-rate feed-in tariff (FIT) to a feed-in premium (FIP) connected to market pricing. The entire strength of the business operator is necessary to create renewable energy and thereafter steadily generate, sell, and recoup the investment.

In the two years since J-POWER "BLUE MISSION 2050" was announced, I believe we have successfully kept our stakeholders informed by outlining its three main goals. We're currently in the phase of making and carrying out decisions. Though our decision-making process may appear slow in some contexts, it prioritizes certainty and requires time to discern the results because J-POWER primarily engages in the wholesale electric power business. We anticipate tremendous advancements in technology, electric power development, and electricity system reform by 2030. Though I prefer to make decisions quickly, I have no intention of making bad ones. Amid the reform process, I would like to determine whether a decision being made is appropriate.



New Shimamaki Wind Farm



Onikobe Geothermal Power Station



Shinkatsurazawa Power Station



Nikaho No. 2 Wind Farm



Triton Knoll Offshore Wind Farm (UK)



Jackson Generation Power Plant (U.S.)



Batang Power Plant (Indonesia)
Photo credit: PT Bhimasena Power
Indonesia



Takehara Thermal Power Plant New Unit
No. 1

Message from the President

Mission as the New President

Investors who first meet with us frequently inquire about the decarbonization of thermal power sources, the progress of the development of renewable energy and Ohma Nuclear Power Plant, CO₂-free power sources, and the future expansion plans of power networks. These three strategies make up the J-POWER “BLUE MISSION 2050,” and based on our challenges and potential for growth, I think investors are interested in them.

In addition, the Tokyo Stock Exchange requests listed companies to take measures that are conscious of capital cost and stock price. Our price to book-value ratio (PBR) has continued to be below 1, which management acknowledges as a significant concern. To enhance our PBR, we want to work on both our return on equity (ROE) and our price-earnings ratio (PER). According to this definition, ROE represents our earnings power, whereas PER represents the expansion and sustainability of the Company.

I believe that to improve our PER, we must demonstrate that our business will expand in order to capitalize on

upcoming business opportunities. Due to rising coal prices and fewer unplanned outages at thermal power plants in FY2022, the Company experienced record earnings. ROE improved and so did the share price, although not to the same extent as earnings. We interpret this as the stock market’s skepticism about the expansion and sustainability of profits reliant on fossil fuels. Gradual phasing out of aged thermal power plants and the implementation of upcycling to hydrogen power generation and CCS are laid out in the J-POWER “BLUE MISSION 2050,” which states that J-POWER will achieve zero-emission thermal power generation by 2050. However, the capital market probably suspects that we lack a clear strategy for how to raise funds and organize investments to reach this goal. A compliance review of the CO₂-free Ohma Nuclear Power Plant is taking quite some time. This leads me to think the capital market is evaluating the uncertainty surrounding return on investment for planned developments. Investors have already asked me on multiple occasions about my primary priorities as president. My response is usually the same: I aim to show that J-POWER will grow by developing as much renewable energy as possible as early as possible. This is a growth area. Moreover, we will grow by working to strengthen our network to deliver this energy to areas where it is in demand. I will also demonstrate J-POWER’s business continuity by paving the road for the earliest possible decarbonization of thermal power sources to lower the Company’s carbon footprint and by fully harnessing our efforts toward completing Ohma’s compliance review. Not only is this my duty as president, but I also believe it will improve the our PER.

By FY2022, all of the substantial domestic and overseas projects we had been working on over the mid- to long-term had been put into operation. From this point forward, our attention will be focused on initiatives that seek to transition our business portfolio in order to increase PER as previously mentioned. In parallel with these investments,



improving ROE will require higher capital efficiency by selling or replacing assets, in addition to improving efficiency by continuing the stable operation of existing power plants, responding to market fluctuations, and utilizing DX. We are considering using return on invested capital (ROIC) as a measure of how well these advancements are being managed overall.

At the end of FY2022, we were ahead of schedule in achieving the targets in the Medium-Term Management Plan for ordinary income of 90 billion yen and an equity ratio of 30%. As the current Medium-Term Management Plan will expire in FY2023, we are presently developing our new strategy for upcoming years. The asset composition in 2030, the amount of investment required to reach this target, and the proportion of debt to equity in terms of fundraising must all be forecasted in the new medium-term plan. In addition, we would like to keep the conversation going with specifics so that the capital market understands that our assets and initiatives will ensure continued generated profit in the future.

 p.29 Medium-Term Management Plan
p.32 Financial Initiatives

J-POWER “BLUE MISSION 2050”

Expansion of CO ₂ -free power source	Renewable energy
	Nuclear Power
Zero-emission power sources	CO ₂ -free hydrogen power generation
	Production of CO ₂ -free hydrogen
Power network stabilization and enhancement	Stabilizing power network
	Power network enhancement

Message from the President

Sustainability

Human resource development

Despite having a small workforce, J-POWER is characterized by its wide range of power generation, transmission and transformation facilities, which are deployed all over the world. As a result of this wide-ranging involvement, we encounter many of the same difficulties currently facing the global energy business. The energy sector must strike a balance between local challenges such as electricity system reform and electric power supply development, which vary in reality from nation to nation, and global imperatives like combating climate change. In a business environment that is becoming more complex, it is difficult to maintain a stable energy supply and this state could last for a long period. Though electric power providers have a challenging obligation to maintain a stable power supply despite the circumstances, I'd like to perform this duty in order to meet the high expectations of society. From this perspective, we will cultivate diverse expertise and broad viewpoints in human resource development to address a wide range of issues as well as the capacity to manage projects and human resources in a changing environment. Above all, I believe it's essential to push ourselves to recognize and address new issues. We will support the development of workplaces where such human resources can engage with one another and develop each other's skills, positioning them as "professional human resources" with these essential qualities.

As I reflect on my own experiences with the benefit of hindsight, I believe that it was only when I accepted responsibility for my actions that I was able to own both my achievements and mistakes, and that this allowed for further development. Employee growth depends on both human resource allocation and human resource development. We will give decision-making rights and responsibility to employees, regardless of age, gender, ethnicity, or experience and provide the opportunity to put what they have learned in the training program into practice.

We are currently dealing with an increasing age range of managers in particular, so I believe we must offer younger members the chance to take on challenges at work while also moving them into new positions as quickly as we can. We will turn the growth of each of these employees into a driving force for the Company's growth as we transform toward carbon neutrality and increase J-POWER's corporate value.

Engagement with local communities

Power generation projects entail the construction of substantial facilities as well as their long-term operation.

Therefore, each project must be constructed and operated in a manner appropriate to each individual community and its environment. Furthermore, developing a trusting relationship and an awareness of the local community serves as the cornerstone for J-POWER's business activities. It is our duty to consider how we might help as both a power supplier and a local member of the community. Being attentive is necessary in order to understand how the community perceives the work we do.

The aforementioned NEXUS Sakuma Project is one example of our efforts to create new value while aiming for harmony between hydroelectric power generation, the local area its people, and the watershed.

Professional human resources



Message from the President

Governance

J-POWER transitioned from a company with an Audit & Supervisory Board to one with an Audit & Supervisory Committee at the Annual General Meeting of Shareholders in 2022. The most significant outcome of this change has been increased discussion among board members. Discussions have been very active with the newly appointed members of the Board of Directors and Audit & Supervisory Committee members stepping up to the plate. Opportunities outside of Board of Directors meetings are also provided in order to discuss long-term strategies, such as a response to climate change, which is an important management issue, future areas of focus that leverage our strengths, and the Company's vision for the future.

We make an effort to present the most recent information as an additional mechanism to advance discussions. The members of the Board of Directors bring varied and specialized skills, and work together to disseminate the most recent knowledge on electricity system reform and climate change response. Despite the fact that the Board of Directors meetings have traditionally included a variety of discussions, we felt the need to further deepen those discussions in light of rapid changes in the environment. We have been able to encourage and improve strategic talks on the issues facing the Company by changing the organizational structure, expanding opportunity for discussion, and providing up-to-date information.

Through discussions at Board of Directors meetings and other forums between outside directors (with a wealth of experience and diversity) and internal directors (who are also serving as executive officers and skilled in the specialized technologies and business promotion), we flexibly adapt to changes in the business environment based on the premise of both a stable energy supply and response to climate change. The question of whether the number of board members is appropriate for spirited conversation has been posed. Evaluation from various technical aspects is crucial when discussing the power

generation business, especially when it comes to large-scale project development. Our Board of Directors' diversity and technical proficiency are crucial for determining the best course of action to resolve problems, as well as weighing the pros and cons of developing large-scale projects. We consider one of the strengths of our Board to be its capacity for technical discussion at meetings.

By 2030, we must complete a number of projects before we can transition our power supply toward carbon neutrality. The Board of Directors will decide whether taking risks is appropriate by considering a number of factors, such as energy systems, profitability, and the Company's response to climate change. In February 2021, J-POWER "BLUE MISSION 2050" was announced. Since

then, we've engaged in a number of conversations with different stakeholders, and we believe we now have a better understanding of three strategies: the development of renewable energy and Ohma Nuclear Power, a CO₂-free power source; decarbonization of coal-fired thermal power; and the enhancement our power network. However, carrying out all of these suitable investments isn't possible. Going forward, the Board of Directors should, in my opinion, develop a shared understanding of how to strategically apply these three approaches, convey it to stakeholders, and foster discussion.

 p.80 Corporate Governance



J-POWER “BLUE MISSION 2050”

- J-POWER “BLUE MISSION 2050” is a strategy and roadmap toward achieving carbon neutrality and a hydrogen society.
- Three approaches will guide us as we prioritize acceleration and upcycling.

Action Plan

Expansion of CO₂-free power sources, zero emissions from power sources, and power network stabilization and enhancement are all essential to achieving carbon neutrality while maintaining a stable power supply.

The J-POWER Group has a diverse power supply portfolio and know-how, and will advance the transition to carbon neutrality based on three action plans.

Expansion of CO₂-free power sources

- Further expansion of renewable energy
- Steady promotion of nuclear power generation

Zero emissions from power sources

- Conversion from thermal power generation to CO₂-free hydrogen power generation
- Production and supply of CO₂-free hydrogen

Power network stabilization and enhancement

- Stabilizing power network
- Power network enhancement

Priorities for Implementation

Acceleration

Having deployed renewable energies nationwide to date, the J-POWER Group will further accelerate their expansion. By offering power balancing capabilities through technologies such as CO₂-free hydrogen power generation, and by contributing to the enhancement of the power network, the Group will also support the expansion of renewable energy throughout Japan.

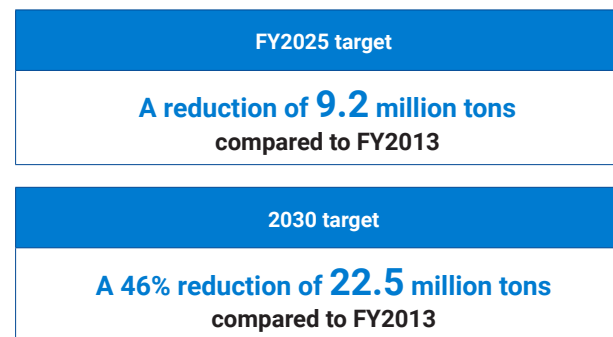
Upcycling

Conducting creative value transformation (upcycling), such as applying new technology to existing assets, to transform them into high value-added assets. By applying the latest technology to existing power generation equipment and facilities, we can reduce environmental impact rapidly and economically.

Raising the 2030 CO₂ Emission Reduction Target

As part of the short- and long-term goals toward achieving carbon neutrality by 2050, we have set goals for eliminating CO₂ emissions from the Group’s domestic power generation business by FY2025 and 2030.

In 2023, we further advanced our CO₂ reduction target, raising the 2030 reduction target by 1.3 million tons. In addition, the reduction standard was changed from the average actual results for FY2017-2019 to the actual results for FY2013, in conformity with the target set by the Japanese government. As a result, the reduction target for 2025 is a reduction of 9.2 million tons compared to the base year, and the reduction target for 2030 is 22.5 million fewer tons, a 46% reduction.



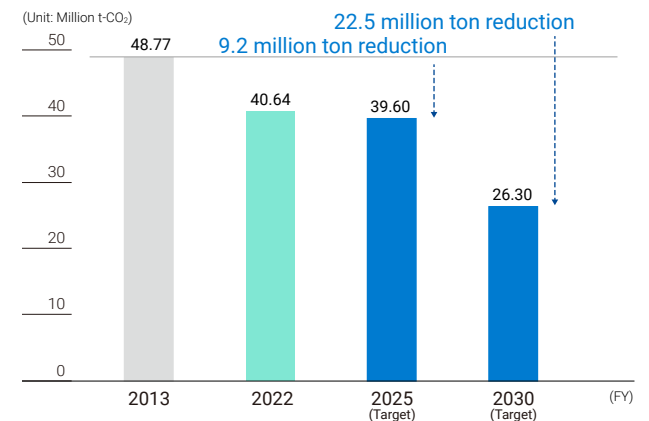
Overseas Power Generation Business

Among the J-POWER Group’s Scope 1 reductions, its domestic power generation business accounts for the majority of emissions, approximately 80%. On the other hand, reductions from the Overseas Power Generation Business will be made in accordance with the energy policy of the country concerned. As these targets cannot be determined solely on our judgment, future reduction plans will be considered, taking into account the relevant countries’ policies, the current situation regarding energy supply and demand, and agreements made with partners.

Relationship between renewable and nuclear power sources and target achievement

The J-POWER Group’s CO₂ reduction target represents aggregate amount of the planned emissions reduction from thermal power sources compared to FY2013. Although the development of renewable energy sources and the operation of the Ohma nuclear power plant won’t directly result in CO₂ reductions at our thermal power plants, they are anticipated to reduce emissions intensity and support CO₂ reductions at power generators and consumers throughout Japan through electricity sales.

p.53 Our CO₂-free power sources contribute to CO₂ reduction in Japan nationwide



Transition strategy J-POWER "BLUE MISSION 2050"

Why do we need a transition strategy?

The ways we transition to carbon neutrality and the speed at which this transition takes place will vary depending on the circumstances of each country and industrial sector. Innovation and its implementation also require much time and R&D, making it difficult for all countries and industries to achieve carbon neutrality in a single bound.

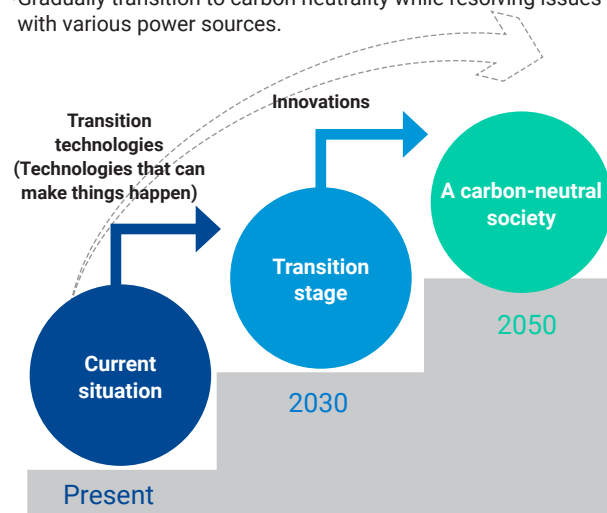
Electric power in particular, which forms the basis of our social and economic activities, needs to shift toward decarbonization while maintaining both stable supply and stable prices.

Additionally, it is imperative that we consult with the stakeholders before any decision is made as the closure or decommissioning of large-scale power plants will bring about significant changes to both the local economy and employment.

The J-POWER "BLUE MISSION 2050" is a transition strategy that facilitates a transition to carbon neutrality while maintaining stable power supplies, all while gradually overcoming the challenges of renewable energy, thermal power supply, and power networks.

Steps toward the transition to carbon neutrality

- It is difficult for all countries and industries to achieve carbon neutrality in one go.
- Gradually transition to carbon neutrality while resolving issues with various power sources.



Based on the Ministry of Economy, Trade and Industry's (METI), Transition Finance - Toward a Transition to Decarbonization

Strategies of the J-POWER "BLUE MISSION 2050"

Expansion of CO₂-free power sources

Our goal is to increase the use of renewable energy worldwide. With the objective of generating 1.5 million kW of new capacity by FY2025, we are engaged in a number of construction projects, mostly focused on onshore wind power, but also offshore wind power, small-scale hydroelectric power, geothermal power, and solar power (compared to FY2017). Also, we are promoting the efficient use of resources by upcycling already existing infrastructure, such as the comprehensive renewal of water turbines and generators and the reconstruction of huge wind turbines.

Also, we are implementing the Ohma Nuclear Power Plant Project as a stable CO₂-free energy source by ensuring safety as its top priority.

Zero-emission power sources and realization of a hydrogen society

J-POWER is gradually shifting thermal power sources, which are responsible for large and stable power supply, toward becoming carbon neutral as we implement measures to reduce CO₂. In addition to biomass and ammonia mixed combustion, we will expand hydrogen power generation using demonstrated coal gasification and CO₂ capturing technologies. In the future, we aim to realize CO₂-free hydrogen power generation by utilizing CCUS technology.

We are also engaged in clean hydrogen production not only from fossil fuels but also via renewable energy sources. Through the production and supply of various types of hydrogen, we will contribute to the decarbonization of society as a whole, including industrial sectors outside of electric power.

Solving issues through J-POWER "BLUE MISSION 2050"

Expansion of CO ₂ -free power sources	•Expansion toward main power source
Zero emission power supply	•Reduction of CO ₂ emissions and maintenance of stable power supply •Ensuring diversity of resources for energy security •Large-scale and stable hydrogen production and development of a supply network
Power network stabilization and enhancement	•Mass introduction of renewable energies causing grid instability •Development of a high-capacity power grid from suitable locations for power generation

Power network stabilization and enhancement

Japan's power network is confined within its own territory and distinguished by insufficient regional interconnection infrastructure. It will be crucial to have the ability to adjust the power supply when renewable energies like solar and wind power are introduced in substantial amounts so that unexpected output variations caused by the weather and time of day do not affect the stable supply of electricity.

In addition to using hydroelectric power and CO₂-free hydrogen as balancing power sources that enable flexible demand fluctuations, J-POWER will also use large-scale pumped-storage power to essentially serve as batteries. Distributed energy services like VPP (Virtual Power Plant) and demand response also aid in network stabilization and promote the widespread adoption of renewable energy.

Expanding the power network that transports renewable energy from the suitable locations for power generation to the major cities where the power is consumed is another issue. By utilizing its expertise in DC transmission lines and submarine cables, the J-POWER Group is moving forward with construction to upgrade the Sakuma Frequency Conversion Station, which links the eastern and western regions. By doing so, it will help to stabilize and improve the power network across all of Japan.

See p.21 - p.28 for the progress of each initiative

Roadmap J-POWER“BLUE MISSION 2050”



*This roadmap will be updated and refined as needed based on policy conditions and industry development. In addition, the Group will review its contents in light of any changes in assumptions.

CO₂ reduction target from domestic power generation business CO₂ emissions (compared to FY2013)

		-9.2 million tons ^{*1}		-22.5 million tons -46% ^{*1}		Realization of carbon neutrality Net-zero emissions		
		2020	2025	2030	2040	2050		
Expansion of CO ₂ -free power sources	Renewable energy	New developments on the scale of 1,500 MW globally		Additional new developments, upcycling of existing facilities				
	Nuclear power	Construction and start of operations at Ohma Nuclear Power Plant						
Zero-emission power sources	Domestic coal-fired power	Gradual phase-out of aging power plants, coupled with CO ₂ reduction initiatives (Expansion of mixed combustion with biomass, introduction of mixed combustion with ammonia, etc.)						
	CCS	Development of business environment, design and construction of facilities			CO ₂ injection and storage			CO ₂ -free hydrogen power generation
	Hydrogen power generation	Demonstration tests in Japan	Upcycling (adding gasifiers to existing assets)					
	Fuel production (CO ₂ -free hydrogen)	Demonstration tests overseas	Utilization in other industries					
Power network stabilization and enhancement	Stabilization	Upscaling hydroelectric power, J-POWER GENESIS, and distributed energy services						
	Enhancement ^{*2}	Completion of the New Sakuma Frequency Converter Station, etc.			Contribution to power network enhancement			
Investment Plans	<div><div></div><div>700 billion yen</div><div></div></div> <div>Strategic investments for FY2023 to FY2030 (Mainly for onshore wind development, power network enhancement, and zero-emission power sources)</div>							

*1 Compared to the three-year average results for FY2017-2019, 2025 target: 7.0 million ton reduction; 2030 target: 44% / 20.3 million ton reduction

*2 Enhancing the power network is an initiative of J-POWER Transmission Network Co., Ltd.

Expansion of CO₂-free power sources J-POWER “BLUE MISSION 2050”



Development of Renewable Energy

Integrated strengths of the J-POWER Group

With a history of nearly 70 years in the development of renewable energy, J-POWER boasts a wealth of equipment and human resources, as well as a wide range of expertise in everything from the siting and construction of power plants to maintenance, operation, and sales of electricity.

Leveraging our advantage as one of Japan's leading renewable energy suppliers, we aim to promote new development of onshore and offshore wind, hydroelectric, geothermal, and solar power, as well as maximize the use of renewable energy through upcycling of existing facilities.

Strengths in offshore wind power

We intend to generate additional offshore wind power while leveraging our experience in construction and project management through initiatives such as the Kitakyushu-Hibikinada Offshore Wind Farm and the Triton Knoll Offshore Wind Farm in the United Kingdom, both of which we participate in.

In order to lower prices and hasten the adoption of floating offshore wind power generation, which is anticipated to be deployed in Japan, where shallow seas are rare, we are also collaborating with technology development manufacturers and electric power businesses in the creation of technologies*.

* Selected for the Green Innovation Fund Project of the New Energy and Industrial Technology Development Organization (NEDO), a national research and development corporation

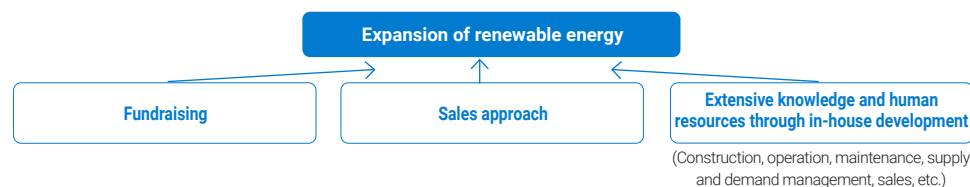
Strategic investments

During FY2023 to FY2030, ¥700 billion strategic investment is planned with which we primarily intend to make significant investments in accelerating the implementation of renewable energy and enhancing the essential power supply network. We will utilize green bonds and green/transition finance to raise funds.

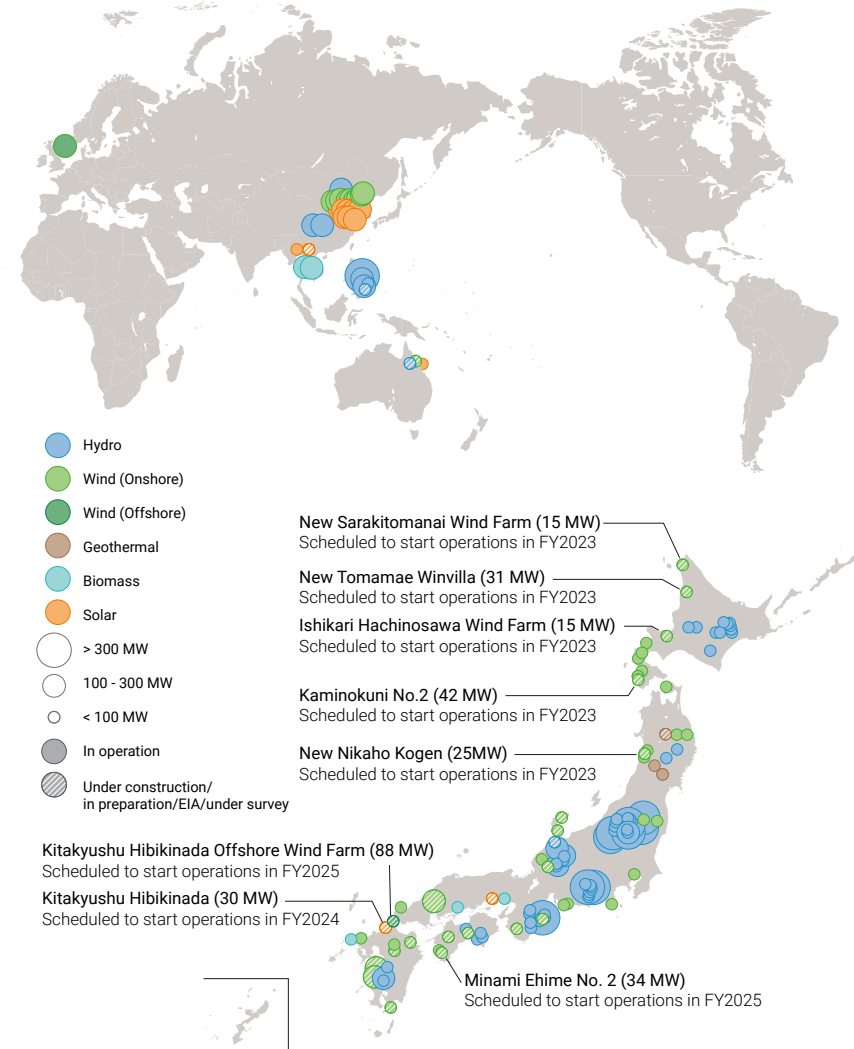
Diversification of sales methods

In the future, we will consider sales of renewable energy directly to clients through corporate PPAs in addition to utilizing the FIT and FIP programs. In order to do this, we are working on supply-demand operations (aggregate), including projections for the power output of renewable energy sources, whose power generation varies depending on the weather.

On behalf of our clients, we also sell and purchase non-fossil certificates, which virtually transform electricity into renewable energy. We also offer tracking information that discloses attribute details like the power source type and power plant location.



Development Status of Renewable Energy (As of April 30, 2023)



- Generation capacity is calculated on owned capacity and, if capacity is not yet decided, on estimated maximum owned capacity.
- Wind power generation during the survey and construction phase includes replacement without an increase in generation output.
- In addition to the above, studies on the development of wind power in Japan's general offshore areas are in progress (for offshore wind power in general offshore areas, the operator is selected through bidding after designating the promotion area).



p.38 J-POWER Group Business (Renewable Energy)
p.73 Human Resource Development and Management (Offshore Wind Project)
p.110 Major Projects Under Construction and Development

Expansion of CO₂-free power sources J-POWER "BLUE MISSION 2050"



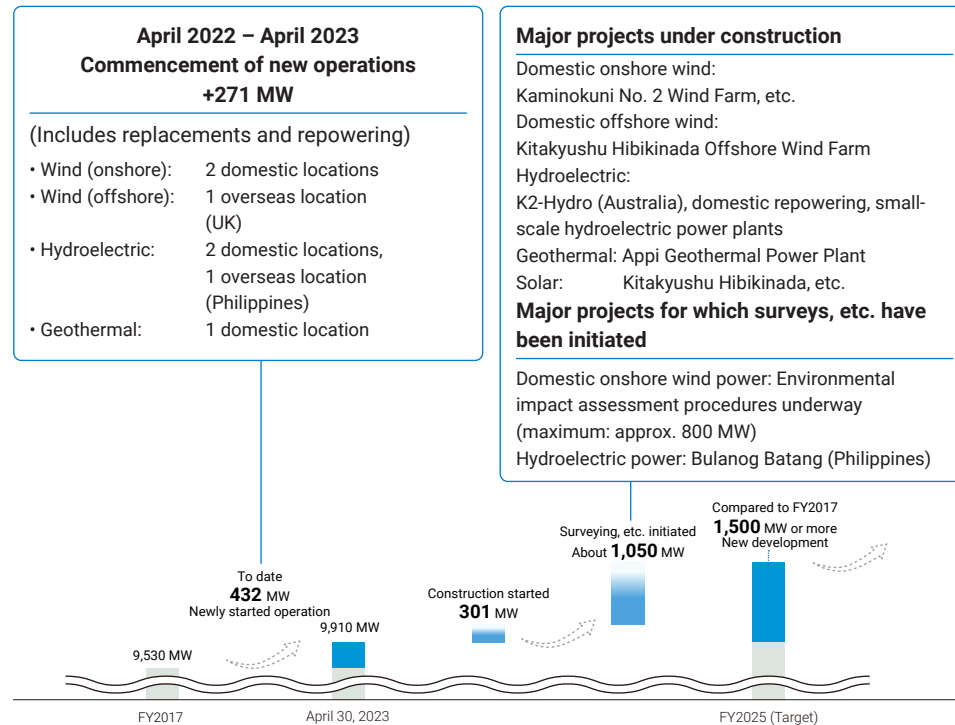
Expansion of Renewable Energy

Development targets and expansion status

In comparison to FY2017, we will add 15 million MW of new development by FY2025. We have been steadily growing since FY2017, beginning with the Triton Knoll Offshore Wind Farm in the UK. Between April 2022 and April 2023, we finished the construction and replacement of new hydroelectric and wind power facilities. The Onikobe Geothermal Power Project started operating commercially in April 2023, raising the overall amount of operating renewable energy to 430 MW more than in FY2017 (as of the end of April 2023).

Several projects focusing on construction and replacement of domestic onshore wind power plants, are currently in progress, including the installation of domestic offshore wind power, small-scale hydroelectric power, geothermal power and solar power, and repowering of existing facilities. The overall quantity of renewable energy projects in development is 13 million MW, including domestic onshore wind sites undergoing environmental impact assessment procedures (up to about 8 million MW) and sites planned abroad, like in Australia and the Philippines.

Renewable Energy Development Goals and Progress



The NEXUS Sakuma Project

The Sakuma Power Station, which has contributed to a reliable supply of electricity for more than 60 years, is being renovated as part of the NEXUS Sakuma Project to make it a next-generation hydroelectric power plant. By bringing together hydroelectric generation, local community/basins, and people, we are trying to produce new value and energy in addition to repowering older facilities. We are proceeding with designing and preliminary preparation construction for starting main construction of main electric facilities and buildings.

Next-generation hydroelectric power plant to create new value and energy

Hydroelectric Generation

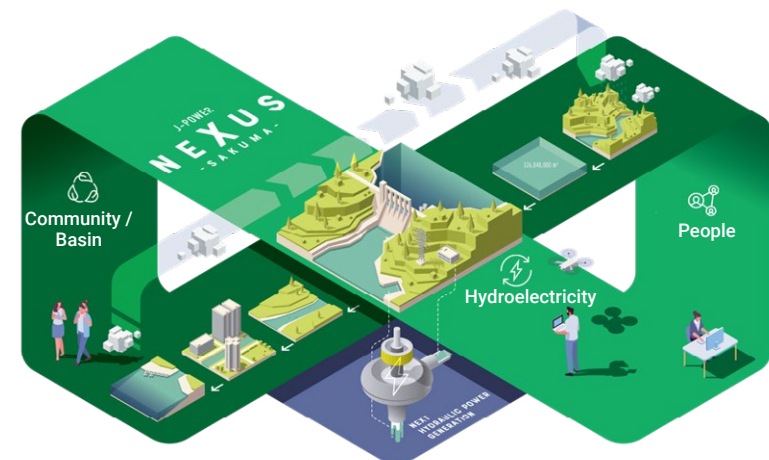
By applying modern technologies to renovate aged facilities, we aim to further increase both output and the amount of electricity to be generated, as well as to drastically solve issues in the existing facilities.

Local Communities and Basins

To deploy our sustainable hydroelectric business under the understanding and cooperation by those who are living in the involving areas, we live together with them in the basins around our facilities and take efforts to create together new values.

People

With a fusion of the local employees' force (people) and digital technologies, we realize highly-advanced, highly efficient maintenance services, as well as we create time and motivation for new challenges.



Final Conceptual Image

The image of hydroelectricity, community and watershed, and people working together around a power plant is expressed based on atmospheric and water circulation systems and the infinity symbol (∞).

Expansion of CO₂-free power sources J-POWER “BLUE MISSION 2050”

The Ohma Nuclear Power Plant Project

Plan overview and significance

The Ohma Nuclear Power Project will be a CO₂-free energy source capable of steadily providing substantial amounts of electricity once it is operational. In addition, it will be the only power plant in Japan capable of using MOX fuel, made by recycling spent fuel, for the entire core.

For energy resource-scarce Japan, nuclear power is a power source that excels in terms of large-scale CO₂-free power, stable procurement and storage of fuel. The operation of the Ohma Nuclear Power Plant will promote the reprocessing of spent fuel in Japan, contributing to the stable operation of other nuclear power plants nationwide, which are CO₂-free power sources, helping to improve the energy self-sufficiency of Japan. The J-POWER Group is implementing the Ohma Nuclear Power Plant Project by ensuring safety as its top priority.

Overview of the Ohma Nuclear Power Plant Construction Plans

Location	Ohma-machi, Shimokita-gun, Aomori Prefecture
Capacity	1,383 MW
Type of nuclear reactor	Advanced boiling water reactor (ABWR)
Fuel	Enriched uranium and uranium-plutonium mixed oxide
Start of construction	May 2008
Start of operations	To be determined



Ohma's position in the pluthermal project

In July 2018, the Japanese government issued The Basic Principles on Japan's Utilization of Plutonium, a new policy paper published by Japan's Atomic Energy Commission (JAEC), which stated that Japan will reduce the size of its plutonium stockpile. The Federation of Electric Power Companies of Japan (FEPC) unveiled in December 2020 its Pluthermal Program and a new plan for the utilization of plutonium in February 2023. J-POWER also released its MOX Fuel Utilization Plan at the Ohma Nuclear Power Plant in February 2023. Approximately 1.7 tons* of plutonium can be used annually at the stage of loading MOX fuel into all reactor cores, thereby helping to reduce the size of plutonium stockpiles.

* This had been set to the amount of fissile plutonium (about 1.1 tons). However, since July 2018, when the Japan Atomic Energy Commission set "The Basic Principles on Japan's Utilization of Plutonium," which indicates the total amount of plutonium, we have used this basis (about 1.7 tons).

Ohma Nuclear Power Plant Safety Reinforcement Measures

In the wake of the accident at the Fukushima Daiichi Nuclear Power Station, the new regulatory standards established by the Nuclear Regulation Authority are now thought to be the strictest safety standards in the world. At the Ohma Nuclear Power Plant, we are learning the lessons from the accident at the Fukushima Daiichi Nuclear Power Plant and incorporating measures to strengthen safety based on these new regulatory standards.

Examples include strengthening design standards to protect the functions of power plant safety equipment from natural disasters such as tsunamis and earthquakes, measures to respond promptly in the event of a severe accident, and measures to prevent serious accidents caused by terrorism and other causes. Furthermore, by not limiting ourselves to these measures and voluntarily and consistently improving safety based on the latest knowledge, we will continue to strive to make the Ohma Nuclear Power Plant the world's safest power plant so that we can contribute to the local community and Japan.

For details of safety enhancement measures, please refer to the J-POWER website. (Japanese only)
https://www.jpower.co.jp/bs/nuclear/safety_measure/index.html

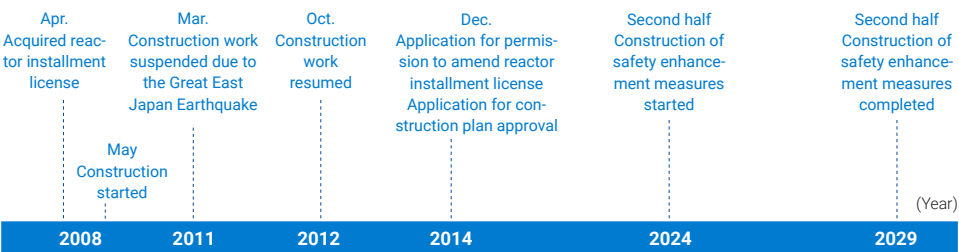
Status of Ohma Nuclear Power Plant Review

The Nuclear Regulation Authority is currently reviewing the Ohma Nuclear Power Plant's compliance with the New Safety Standards for Nuclear Power Stations. Sixty one review meetings have been held as of the end of April 2023, and in order for our explanation to be understood, we respond forthrightly to the review.

Standard seismic motion and standard tsunamis are currently the main topic of discussion. As the business operator, we are unable to predict the progress of the compliance review. However, once the review has been passed, we will begin construction on facility safety reinforcement in the latter half of 2024 based on the review findings, with the aim of completion in the latter half of 2029.

To gain the community's understanding and trust, we shall keep working toward providing more detailed information and communication.

Process (actual results and outlook)



Creating a zero-emission power supply J-POWER “BLUE MISSION 2050”

Hydrogen initiatives of J-POWER “BLUE MISSION 2050”

The use of hydrogen is crucial to achieving carbon neutrality and the promotion of electrification and decarbonization of energy sources. The J-POWER “BLUE MISSION 2050” calls for the gradual introduction of CO₂ emission reduction technologies such as the mixed combustion of biomass or ammonia and CCS as well as the decrease or elimination of thermal power generation with the ultimate conversion to CO₂-free hydrogen power generation. Through the production and supply of hydrogen, J-POWER will also contribute to the global reduction of carbon emissions.

Hydrogen production by leveraging our strengths

Originating from fossil fuels

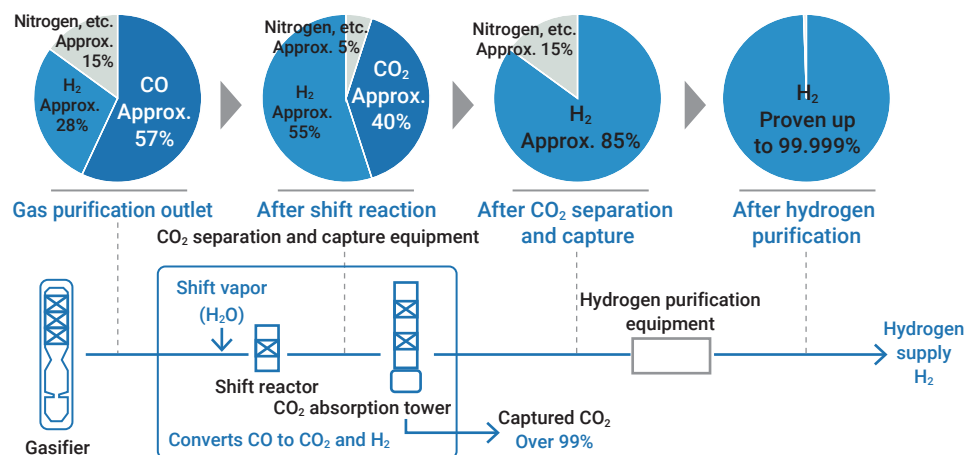
Utilizing oxygen-blown coal gasification and CO₂ separation and recovery technologies that have been under research and development for more than 20 years, J-POWER is capable of producing high-purity hydrogen from coal and using it to generate power. These technologies are one step closer to commercialization (Ready). Regarding CCS, which is essential for CO₂-free energy production, we have begun initiatives to make large-scale storage a reality in Japan.

The combination of these technologies is intended to create a large-scale source of hydrogen. Additionally, employing biomass as fuel will result in negative emissions.

Hydrogen production via renewable energy sources

The J-POWER Group is exploring hydrogen production utilizing renewable energy sources and boasts vast infrastructure and operating experience in the field.

Hydrogen production process via oxygen-blown coal gasification



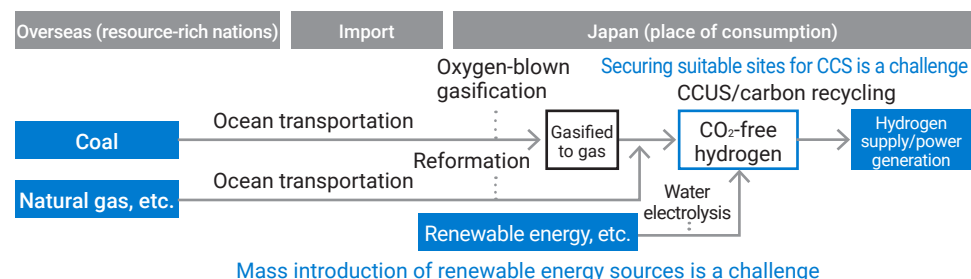
Hydrogen production in Japan and overseas

We are working to demonstrate various production methods, examining the benefits and difficulties of each both in Japan and overseas, in order to realize CO₂-free hydrogen production and power generation in the future.

Produced in japan

There are two methods for domestic hydrogen production: utilizing local renewable energy sources and importing materials from overseas. Geographical conditions and power supply network limitations in Japan limit the amount of renewable energy that can be introduced. Therefore, the use of fossil fuels can contribute to the production of hydrogen in large and stable quantities.

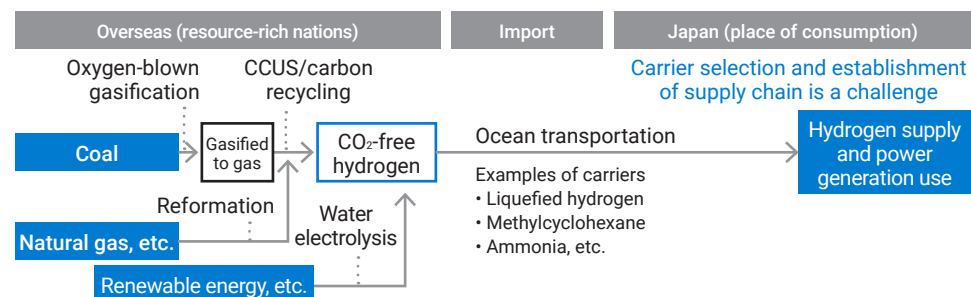
Importing fossil fuels enables the utilization of existing supply systems, especially coal, which has excellent storability and low geopolitical risk. On the other hand, it is essential to treat the CO₂ generated in the manufacturing process, and securing a suitable site for large-scale CCS in Japan is a challenge.



Overseas production

Hydrogen can be manufactured at low cost and in large quantities overseas. It is also feasible to create hydrogen from cheap, non-exportable resources in resource-rich nations with adjacent CCS-suitable sites.

On the other hand, concerns with transport to Japan need to be addressed, including the choice of economically viable carriers and the creation of a worldwide supply chain.



Creating a zero-emission power supply J-POWER "BLUE MISSION 2050"

Expansion of mixed combustion with biomass

At the existing Takehara Thermal Power Plant New Unit No. 1 (600,000kW), equipment for combined combustion of biomass was added in FY2022, enabling large-scale mixed combustion of 10% (by weight). This will contribute to an annual reduction of approximately 250,000 tons of CO₂ emissions.

Osaki CoolGen Project

The Osaki CoolGen Project* is currently conducting a demonstration test of a system that produces CO₂-free hydrogen in Japan using coal gasification technology and uses it to generate electricity. The third phase of testing for the integrated gasification fuel cell mixed cycles was conducted in FY2022. From FY2023, we will demonstrate CO₂ separation and capture, combined cycle power generation, and gasification by mixing biomass and coal.



*Joint project between J-POWER and the Chugoku Electric Power Co., Inc. (NEDO subsidized project)

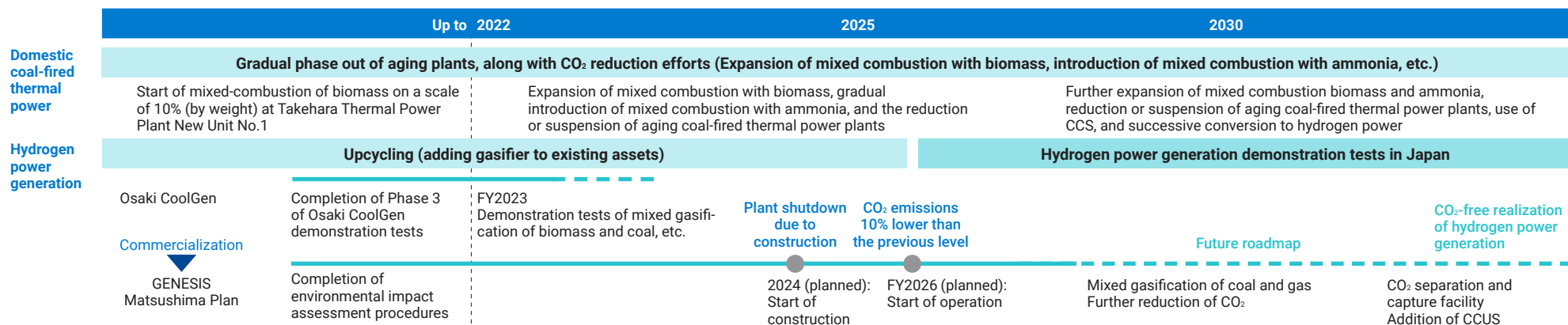
Key features demonstrated by Osaki CoolGen

- Phase 1, oxygen-blown IGCC*¹ demonstrations for coal gasification resulted in a 28% hydrogen concentration. A gross thermal efficiency of 51.9% (LHV), the best power generating efficiency in the world, and an excellent load flexibility were also confirmed.
- In Phase 2, in which CO₂ separation and capture were included, production of gas with an 85% hydrogen concentration and high CO₂ capture efficiency (CO₂ capture rate of over 90% and captured CO₂ purity of over 99%) was shown.
- In Phase 3, IGFC*² demonstration with CO₂ separation and capture, a fuel cell power generation test was conducted using highly concentrated hydrogen after CO₂ separation and capture. A power generation efficiency of 66% (LHV) is expected to be achieved in a future commercial machine.

*1 IGCC: Integrated gasification combined cycle

*2 IGFC: Integrated gasification fuel cell cycle

Status of Initiatives



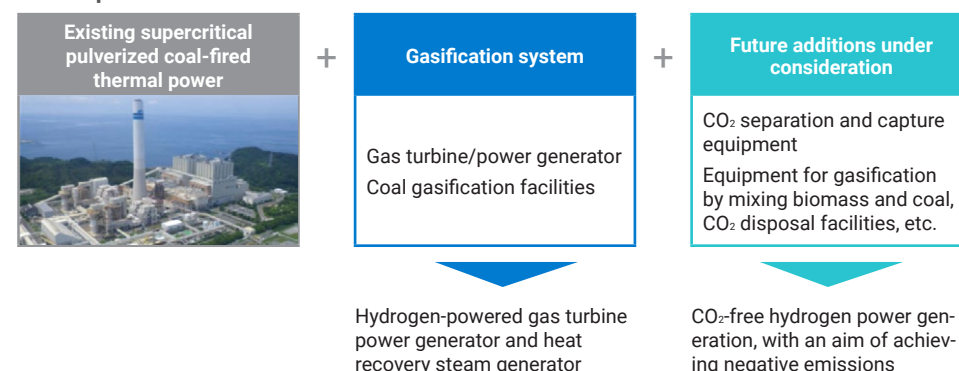
The GENESIS Matsushima Plan

The GENESIS Matsushima Plan will commercialize the coal gasification technology demonstrated through the Osaki CoolGen Project by applying it to the existing Matsushima Thermal Power Plant No. 2, at which CO₂ emissions can be reduced by 10% compared to its predecessor due to its higher efficiency. The plan will also contribute to the stabilization of the power network in the Kyushu area, which is rich in renewable energy, by demonstrating high load tracking.

J-POWER is currently conducting environmental impact assessment procedures.

If gasification by mixing biomass and coal is implemented in the future, CO₂ emissions can be further reduced. A CCUS/carbon recycling facility and a facility for CO₂ separation and capture can also be added in the future thanks to the design, which will enable gradual implementation of CO₂-free hydrogen power generation.

Concept



Creating a zero-emission power supply J-POWER “BLUE MISSION 2050”

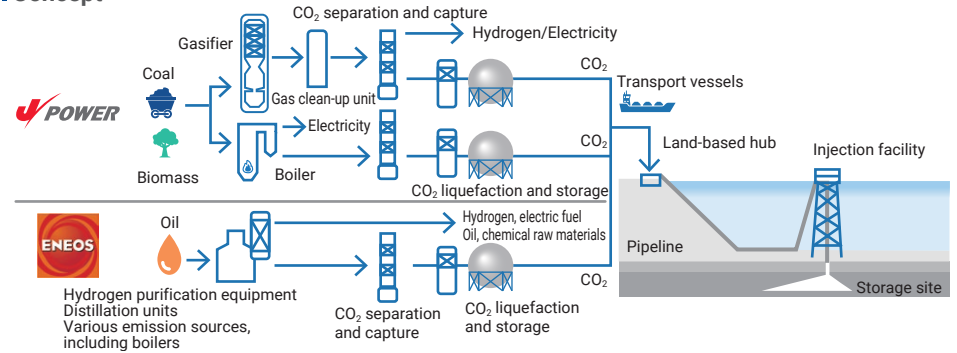
Established CCS technologies

Storage of CO₂ in the ground is an efficient method for reducing CO₂ emissions from existing coal-fired power facilities on a broad scale. Enhanced oil recovery (EOR) has previously introduced CO₂ injection technology into the ground, and storage technology has already been successfully applied globally. Up until now, J-POWER has also acquired knowledge through efforts such as its Tomakomai CCS Demonstration Project.

Initiatives for large-scale CCS in Japan

With the goal of creating Japan’s first full-scale CCS supply chain by 2030, J-POWER established a joint venture, West Japan Carbon dioxide Storage Survey Co., Ltd., with ENEOS Corporation and JX Nippon Oil & Gas Exploration Corporation. In western Japan, where the emission sources of J-POWER and ENEOS are located and where considerable CO₂ storage potential is anticipated, research and other preparations are being made. The project was designated as a “Study on Implementation of Japan’s Advanced CCS Project” in August 2023. Going forward, we will promote research on facilities for capture, transportation and storage in the future.

Concept



Status of Initiatives

	Up to 2022	2025	2030
CCS	Development of project environment, design and construction of facilities		Injection and storage
Domestic CCS	Establishment of West Japan Carbon dioxide Storage Survey Co., Ltd.	2023 Selected for the “Study on Implementation of Japan’s Advanced CCS Project” Subsurface structure in-depth study Create basic design Select candidate storage sites Create detailed design FY2026 (target) Commercialization decision	FY2030 Begin injection and storage Reduction of CO ₂ emissions from domestic thermal power generation To make hydrogen power generation CO ₂ -free
Overseas CCS	Participation in CTSCo Project in Queensland, Australia	Obtained environmental approval for CO ₂ storage Construction of CO ₂ capture plant 2025 (planned) Capture plant operation and injection start Storage target: 110,000 t-CO ₂ per year	

Large-scale CO₂ storage overseas

Since FY2022, J-POWER has been a part of an integrated demonstration project in Queensland, Australia that focuses on the capture, transportation, and underground storage of CO₂ from coal-fired thermal power plants. 500 million tons of CO₂ storage space is anticipated in this region, and starting in 2025, we plan to begin storing up to 110,000 tons of CO₂ annually.

Demonstration of Japan’s first integrated carbon recycling process

In a demonstration test, the Osaki CoolGen Project liquefied the collected CO₂ and moved it to a greenhouse growing tomatoes to aid in photosynthesis. In cooperation with Osaki CoolGen Corporation, Sera Saiken Co., Ltd. and NIPPON EKITAN Corporation, this is the first demonstration of integrated carbon recycling from collection, liquefaction, transportation, and utilization in Japan.



CO₂ injection site near Moonie in Queensland, Australia



Osaki CoolGen’s liquefied CO₂ production facility

Creating a zero-emission power supply J-POWER "BLUE MISSION 2050"

Hydrogen Energy Supply Chain Project between Japan and Australia

From 2016 to 2022, J-POWER participated in a demonstration project to establish a hydrogen supply chain using Australian brown coal. We have achieved high purity hydrogen production by gasifying brown coal, which is still abundant and unused in the state of Victoria, Australia. The liquefied hydrogen was transported by sea on a liquefied hydrogen carrier and arrived at the demonstration terminal in Kobe in 2022, where it was unloaded, verifying the possibility of establishing a supply chain.



J-POWER Latrobe Valley/HySTRA

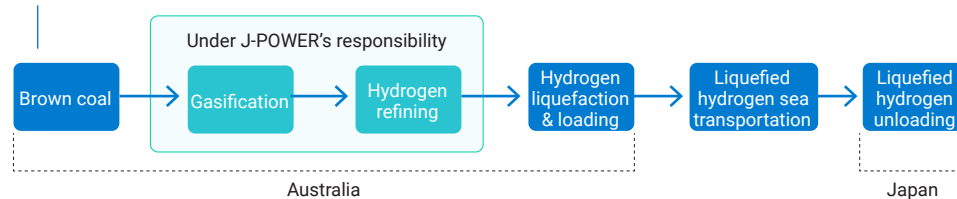
Insights gained from the project

- 99.999% purity hydrogen production from brown coal achieved
- Hydrogen production using three different types of biomass and six different types of brown coal demonstrated
- Design and operational data for commercialization obtained (gasification characteristics, oxygen content adjustment, hydrogen purity improvement, etc.)

Overall view of the global hydrogen supply chain

Benefits of using brown coal

- Abundant near the ground surface
- Low and stable prices can be expected due to inefficient transportability and lack of coal market distribution



Feasibility Study on Clean Hydrogen Production in Australia

In order to research the commercialization of clean hydrogen production utilizing brown coal from the same region, J-POWER and Sumitomo Corporation jointly signed a memorandum of understanding after the successful completion of the demonstration test.

In cooperation with a local CCS operator, we intend to clean the hydrogen via CO₂ processing. By 2030, our initial goal is to create 30,000 to 40,000 tons of hydrogen annually.

In addition to utilizing the hydrogen produced within Australia^{*1}, the Company is also considering cooperation with the "Demonstration Project for the Commercialization of a Liquefied Hydrogen Supply Chain^{*2}," which was selected as a NEDO Green Innovation Fund Project.

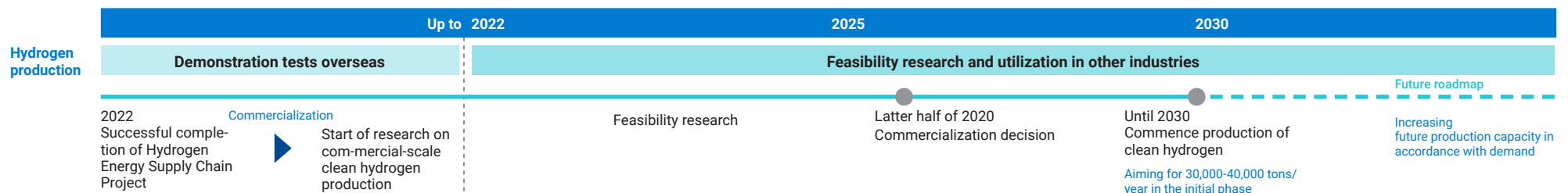
^{*1} The supply of not only pure hydrogen but also ammonia, urea, fertilizers and methanol producers are currently under review

^{*2} A large-scale liquefied hydrogen supply chain demonstration project collaboratively conducted by Japan Suiso Energy, Ltd., Iwatani Corporation, and ENEOS Corporation



Signed a Memorandum of Understanding for cooperation at AZEC (Asian Zero Emission Community) Ministerial Meeting. The public and private sectors in Australia and Japan will work together to promote investment.

Status of Initiatives



Power network stabilization and enhancement J-POWER "BLUE MISSION 2050"

Power Network Stabilization

Renewable energies like solar and wind power are vulnerable to sudden fluctuations in output depending on weather conditions. When they are introduced in large amounts, the need to be able to adjust to control the supply-demand balance becomes even more critical.

The J-POWER Group plans to aid in the widespread use of renewable energy by stabilizing the power grid.

Hydroelectric power and hydrogen power generation

Hydroelectric power generation is capable of quick startup and shutdown as well as rapid output fluctuations. Pumped storage power plants in particular can take in extra electricity. Moreover, oxygen-blown IGCC has been shown to be adaptable and load-adjustable by the Osaki CoolGen Project. J-POWER promotes the upcycling of hydroelectric power generation and the conversion of coal-fired thermal power generation to hydrogen power generation in order to stabilize the electric power network.

Distribution network system

J-POWER uses its expertise in supply and demand forecasting to act as an intermediary between electric power companies and consumers as well as stabilize the electric power network by managing the supply-demand balance. For instance, we are developing Demand Response and VPPs, which balance supply and demand by combining customer-owned demand facilities, requiring power conservation to avoid power outages, and methodically managing the recharge/discharge of storage batteries.



Large-capacity storage batteries

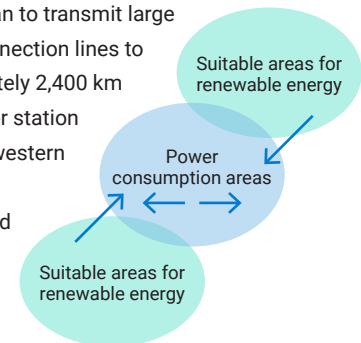
Power Network Enhancement * Initiatives of J-POWER Transmission Network Co., Ltd.

In order to expand the introduction of renewable energy sources, the power network must be strengthened in order to move electricity from suitable power production sites (such as Hokkaido, Tohoku, and Kyushu) to distant consumption areas. Using its technology and expertise in power transmission and transformation facilities, J-POWER Power Transmission contributes to improving the power network.

Expansion of trunk transmission lines and inter-regional connection lines

J-POWER is expanding its trunk transmission lines across Japan to transmit large amounts of electricity and also expanding its inter-regional connection lines to transmit electricity across regions. (J-POWER owns approximately 2,400 km of these lines.) The Company also boasts a frequency converter station that exchanges electricity between eastern Japan (50Hz) and western Japan (60 Hz).

Construction of the new Sakuma Frequency Conversion Station and the associated strengthening and renovation of transmission lines are currently under way in order to improve the flexible transmission of larger amounts of electricity between eastern and western Japan.



Expansion of submarine DC interconnection facilities

Large-scale electrical transmission across Japan requires the use of submarine DC transmission facilities. The first ultra-high-voltage DC power transmission facility in Japan was built by J-POWER Transmission, which also created a DC CV cable that can successfully carry enormous amounts of power over great distances without the need for insulating oil. J-POWER has expertise constructing and operating cross-regional interconnection facilities utilizing submarine cables, including facilities for connecting Hokkaido and Honshu. Through this, we will support the future growth of Japan's power network.

Status of Initiatives

	Up to 2022	2025	2030
Stabilization	Upscaling of hydroelectric power, J-POWER GENESIS, and expansion of distributed energy service		
	Construction of small hydroelectric plants and replacement of existing facilities Oxygen-blown IGCC demonstration of high load-fluctuation performance Start of demand response demonstration tests	Gradual hydroelectric upcycling Scaling up and expanding introduction of demand response	FY2026 (planned) Start of the GENESIS Matsushima Plan (power generation via hydrogen gas) Shift to hydrogen gas production Realization of CO ₂ -free hydrogen power generation
Enhancing*	Completion of reinforcement of the New Sakuma Frequency Converter Station, etc.		contribution to power network enhancement
	Start of construction of the New Sakuma Frequency Converter Station Start of power line reinforcement work		FY2027 Maximum capacity: 300,000kW → 600,000kW Start of operation of the New Sakuma Frequency Converter Station Completion of reinforcement of transmission lines

* Enhancing is an initiative of J-POWER Transmission Network Co., Ltd.

Medium-Term Management Plan

- Developed for FY2021, the three-year Medium-Term Management Plan is based on the J-POWER "BLUE MISSION 2050", a strategy designed to enhance corporate value while striving for a transition to carbon neutrality by 2050.

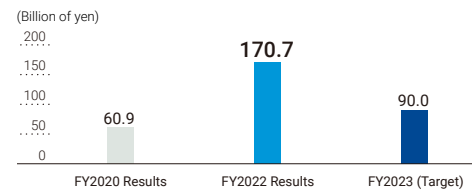
Management Goals

FY2023 target	FY2025 target	2030 target
Consolidated ordinary Income ¥90 billion or more Consolidated equity ratio 30% or more	Renewable energy development 1,500 MW or more* Compared to FY2017 CO₂ emissions reduction -9.2 million tons or more Compared to FY2013	CO₂ emissions reduction -46% or more Compared to FY2013

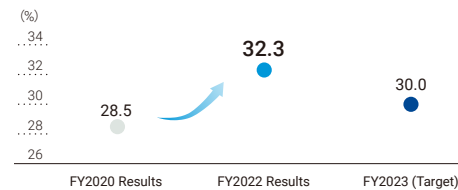
* This figure does not include offshore wind power projects in the domestic general sea area subject to public offerings. Other than this, an increase of 300 million kWh/year from hydroelectric power is set as a goal in FY2025 (compared with FY2017).

Progress

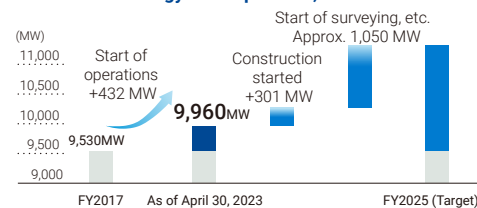
Consolidated ordinary income: ¥90 billion or more



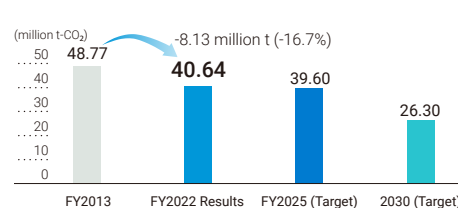
Consolidated equity ratio: 30% or more



Renewable energy development 1,500 MW or more



CO₂ emissions reduction: 40% or more



Dividend payments (yen)

FY	2015	2016	2017	2018	2019	2020	2021	2022	2023 (forecast)
Interim	35	35	35	35	35	35	35	40	45
Year-end	35	35	40	40	40	40	40	50	45
Annual dividend	70	70	75	75	75	75	75	90	90

Overview of FY2022 (ended March 31, 2023)

Achieve financial targets ahead of schedule

Consolidated ordinary profit rose 97.9 billion yen from the previous year to 170.7 billion yen. In FY2022, steady efforts in domestic and overseas power generation projects bore fruit, including a decrease in unplanned outages at domestic power plants and the start of operation of large-scale overseas projects. In addition, the continued rise in resource prices and increased profits from a subsidiary with coal mining interests in Australia led to a significant increase in profits.

The ratio of consolidated equity was 32.3%. Due to a need for increased funding brought on by rising resource prices as well as the effects of foreign exchange, total liabilities stood at 2,169.9 billion yen as March 31, 2023, an increase of 67.8 billion yen. Net assets rose by 228.6 billion yen to 1,192.7 billion yen as a result of such variables as net income attributable to parent company owners, increases in foreign currency translation adjustments, and deferred gains or losses on hedges.

We will work to improve consistent and ongoing returns to shareholders based on profit levels, earnings projections, and financial conditions, with a target consolidated dividend payout ratio of 30%, excluding factors that may cause short-term profit fluctuation.

In order to combine the return of one-time profits in FY2022 with stable returns over the medium- to long-term, taking into account the financial situation, including the scope of medium- and long-term investments aimed at achieving carbon neutrality, the dividend for FY2022 has been increased, ahead of schedule, to 90 yen per share. In FY2023, we intend to maintain this dividend amount.

Steady buildup of renewable energy

As the Triton Knoll Offshore Wind Farm began commercial operation in the UK, other wind and hydroelectric power plants that had been undergoing replacement or being newly constructed also commenced operation. Renewable energy in commercial operation rose by 432 MW from the base year (end of FY2017) as of the end of April 2023.

The total capacity is anticipated to reach 1,500 MW when other power plants that are currently under construction and locations that are undergoing environmental impact assessments are accounted for.

Raised CO₂ reduction targets

With FY2013 as the base year, the reduction target for FY2030 was increased by 1.3 million tons. The total amount was 40.64 million tons in FY2022, which was a decrease of 8.13 million tons from the base year. We sold our stake in a subsidiary thermal power plant in FY2022 and began 10% mixed combustion of biomass (by weight) at Takehara Thermal Power Plant New Unit No. 1 in FY2022.

Medium-Term Management Plan

Progress of Major Initiatives

Action 1: Acceleration of the development of CO₂-free power sources

The overall installed capacity of renewable energy sources as of the end of April 2023 was 432 MW. To meet rising global demand for renewable energy, we will give the development of renewable energy sources first priority when allocating investment funding. Regarding the Ohma Nuclear Power Plant, we will thoughtfully and responsibly respond to the study while pursuing further safety advancements.

 p.22 Expansion of Renewable Energy p.23 Overview of the Ohma Nuclear Power Plant Construction Plans













Major Initiatives

2022

Apr.	Commenced commercial operation of The Triton Knoll Offshore Wind Farm in the UK
Apr.	Kumaoi Power Station (hydroelectric) began commercial operation
May	Joint Development Agreement Signed with Genex Power Ltd. of Australia for Wind Power Generation Project
May	Shinkatsurazawa Power Station (hydroelectric) began commercial operation
Jun.	Geothermal resource survey begins in the Takahinatayama area
Dec.	Participation in a hydroelectric power generation project in Mindanao, Philippines (One of the projects began commercial operation in March 2023)

2023

Feb.	Esashi Wind Farm began commercial operation
Apr.	Onikobe Geothermal Power Station began commercial operation

Start of Operations		432 MW ^{*1, 2, 3}			
	Onshore wind 151 MW Offshore wind 214 MW		Hydroelectric 29 MW	 Geothermal 38 MW	 Solar 1 MW
Construction Started		301 MW ^{*2, 3}			
	Onshore wind 181 MW Offshore wind 88 MW		Hydroelectric 25 MW	 Geothermal 2 MW	 Solar 6 MW
Start of Surveying, etc.		1,050 MW ^{*2, 3}			
	Onshore wind Approx. 900 MW (Maximum) Offshore wind Under investigation for general sea areas		Hydroelectric 13 MW	 Geothermal Under investigation	 Solar 132 MW

*1 For operations started in FY2017 or later

*2 Owned capacity as of the end of April 2023, or assumed maximum owned capacity if output is undecided.

*3 In case of repowering, only the increased output

Action 2: Creation of new value from existing assets (upcycling)

With upcycling, such as the comprehensive replacement of renewable energy equipment, we are attempting to boost value. The GENESIS Matsushima Plan also seeks to add value by integrating new technologies into existing assets in the form of early CO₂ reduction and high output adjusting capability.

 p.22 The NEXUS Sakuma project p.25 The GENESIS Matsushima Plan p.26 Initiatives for large-scale CCS in Japan

Major Initiatives

2022

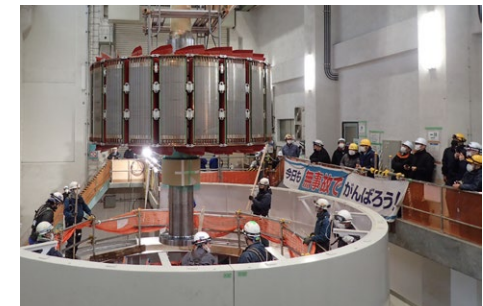
May	Began collaborating with ENEOS Corporation on a feasibility assessment for domestic CCS
Jun.	Participated in a demonstration project in Australia to capture, transport, and store CO ₂ from coal-fired power plants
Jul.	Began a demonstration project for effective utilization of CO ₂ captured from Osaki CoolGen
Oct.	Study on CO ₂ negative hydrogen production from domestic biomass adopted as a NEDO project

2023

Feb.	Completed replacement of New Shimamaki Wind Farm
Feb.	Began trial operation of effective use of natural overflow water during snowmelt at Isawa No. 1 Hydroelectric Power Plant
Feb.	Established a joint venture to study domestic CCS storage business
Feb.	Completed GENESIS Matsushima Planning Methodology Procedure
Mar.	Completed repowering of Ashoro Power Plant Unit No. 1 (hydroelectric)
Apr.	Began repowering of Suezawa Power Plant (hydroelectric)



New Shimamaki Wind Farm




Ashoro Power Plant Unit No. 1

Medium-Term Management Plan

Action 3: Challenges to new business areas

J-POWER is seeking commercial opportunities as a manufacturer and supplier of CO₂-free hydrogen. We also offer services to balance the supply and demand for power using demand response and other strategies. Additionally, by merging our technologies and expertise, we hope to create additional value through investments in startup companies.

 p.26 Initiatives for large-scale CCS in Japan p.27 Hydrogen Production Initiatives
p.28 Power Network Stabilization and Enhancement p.44 Other Business

Major Initiatives

2022

Apr.	Commemorative ceremony for the completion of the Japan-Australia Hydrogen Energy Supply Chain Project
Jul.	Started demand response using water facilities with Kasugai City, Aichi Prefecture
Jul.	Invested in PowerX, Inc.
Oct.	Joined an organization dedicated to the commercialization, diffusion, and expansion of domestically produced SAF (Sustainable Aviation Fuel).
Dec.	Commenced demonstration of non-fossil certificate trading through virtual PPA


2023

Feb.	Opted to use demand response using Hiroshima Prefecture's water supply infrastructure
Mar.	Invested in Nippon Fiber Corporation
Mar.	Studied commercialization of brown coal-derived clean hydrogen production in Victoria, Australia.
Mar.	Opted to install wind-powered propulsion system Kite aboard a coal carrier
May	Invested in Kyoto Fusioneering Ltd.

Action 4: Strengthening our business foundation

Overseas activities for three significant projects have started. By purchasing new projects, the Company hopes to expand its overseas clientele in response to growing power demands and the need for renewable energies.

By reorganizing our Company portfolio, we also hope to maximize capital efficiency. DX and human resource development will also be used to increase profitability and productivity.

 p.32 Financial Initiatives p.41 Overseas Business p.68 Human Resources Strategy to Enhance Corporate Value
p.77 J-POWER Group's DX Strategy

Major Initiatives

2022

Apr.	Commenced commercial operation of Triton Knoll Offshore Wind Farm in the UK
May	Commenced commercial operation of Jackson Thermal Power Plant in the U.S.
Jul.	Participated in a project to upgrade the facilities of a gas cogeneration power plant in Thailand
Aug.	Transferred the stocks of ITOIGAWA POWER Inc.
Sep.	Began commercial operation of Batang Power Plant (previously Central Java Coal-Fired Thermal Power Project) in Indonesia
Nov.	Formulation of Green Transition Finance Framework

2023

Feb.	Raised funds through a transition-linked loan
Feb.	Board of Directors resolved to introduce materiality indexes for officer compensation (performance-linked compensation)
Feb.	Partial sale of interest in Jackson Thermal Power Plant in the U.S.



Ceremony to Commemorate Completion of the Japan-Australia Hydrogen Energy Supply Chain Project



PowerX, Inc.'s goal of electric carriers



Triton Knoll Offshore Wind Farm (UK)



Jackson Thermal Power Plant (U.S.)

Financial Initiatives

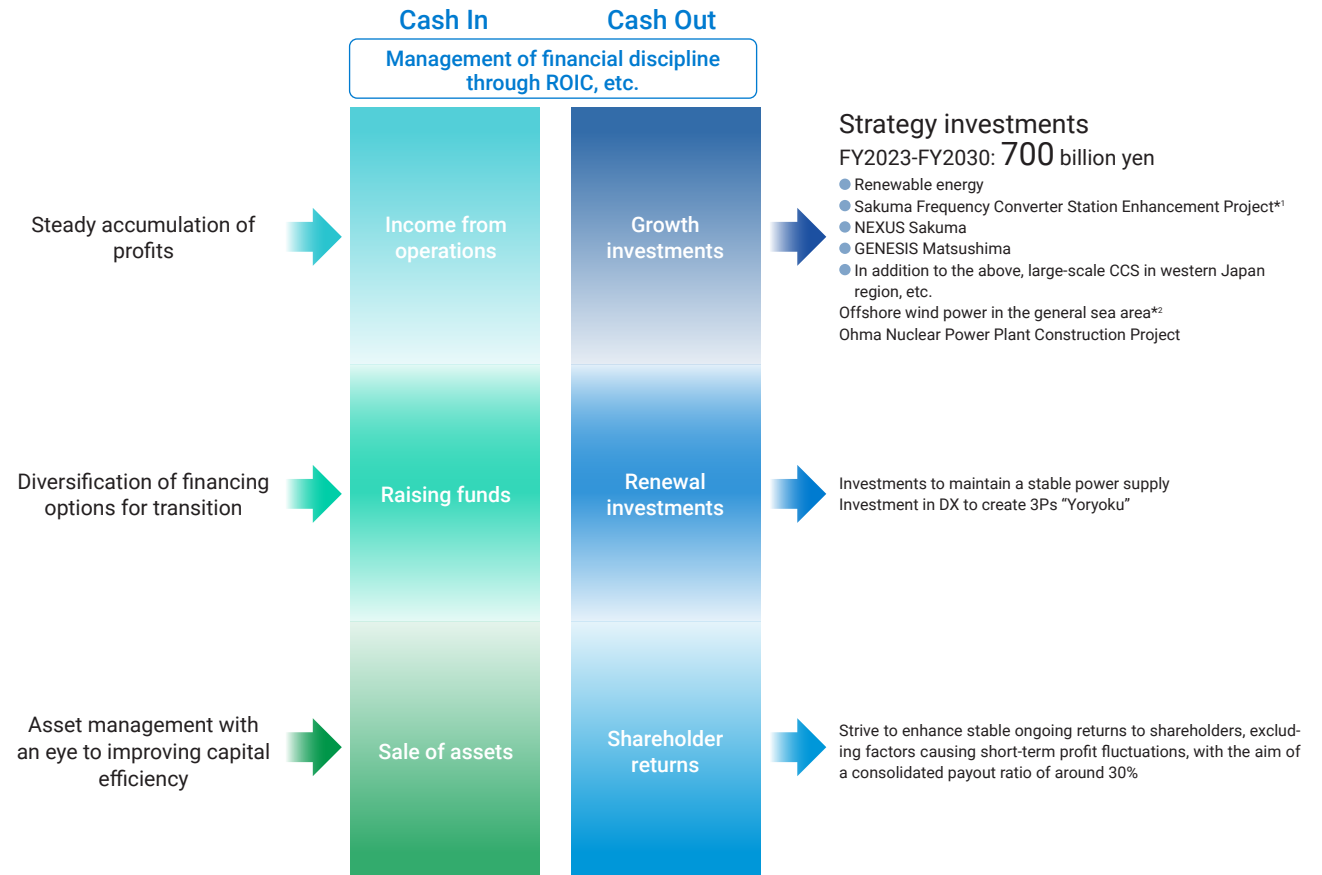
Capital Allocation

The J-POWER Group is promoting three initiatives of the J-POWER “BLUE MISSION 2050”—expansion of CO₂-free power sources, zero-emission power sources, and power networks—to contribute to the realization of a carbon-neutral society. We will invest 700 billion yen in strategic investments by FY2030 for these initiatives and make a Company-wide transition.

Each project for these growth investments is carefully scrutinized to ensure financial returns. The balance of payments during the transition period is supported by thermal power plants and other existing facilities. It is anticipated that these facilities will continue to contribute to earnings through stable operation that steadily strengthens profits, risk management of market conditions, and the introduction of DX.

In terms of financing, we will seek to reduce capital costs by utilizing various frameworks being developed to realize a carbon-neutral society. In addition, we will sell or reinvest a portion or all of our assets and interests, taking into consideration the characteristics of the assets, as we manage our portfolio with an awareness of capital efficiency.

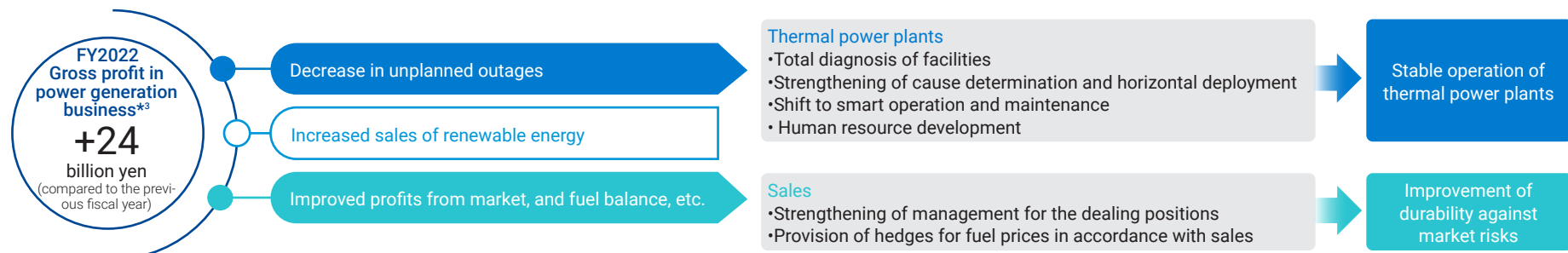
In order to achieve a sustained increase in corporate value, these actions to improve profitability and transition the portfolio will be assessed through return on invested capital (ROIC), which is now being considered for implementation.



*The above chart is a conceptual diagram of capital allocation and does not indicate the size of funds for each item.

Steady accumulation of profits

We have facilitated efforts for reducing unplanned stoppage of thermal power plants and for strengthening risk management in the sales activities to retailing business operators and other sellers to improve profitability in FY2022.



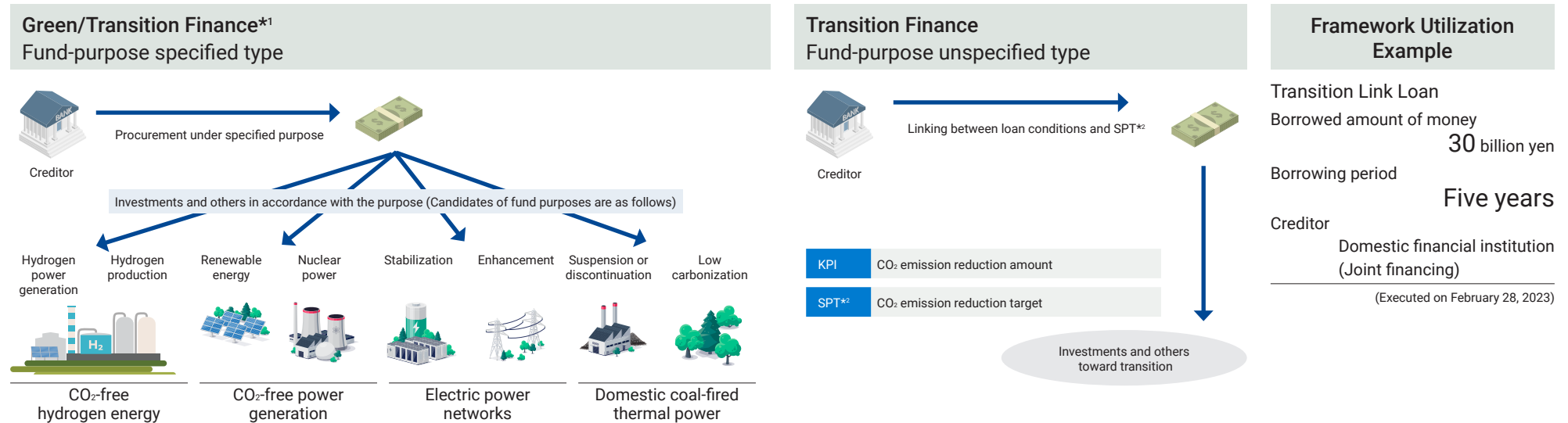
*1 This is an initiative of J-POWER Transmission Network. *2 If we win the bid in a future bidding, we will record it as a strategic investment.
*3 What remains after subtracting fuel and other costs from profits derived from the Domestic Electric Power Business (hydroelectric power, thermal, wind and others).

Financial Initiatives

Diversifying Methods of Fundraising Toward Transition

We have formulated a new framework called "Green/Transition Finance Framework" for fundraising toward transition to a carbon-neutral society.

This framework has been evaluated for its eligibility to various finance standards by a third-party evaluation organization called DNV BUSINESS ASSURANCE JAPAN.

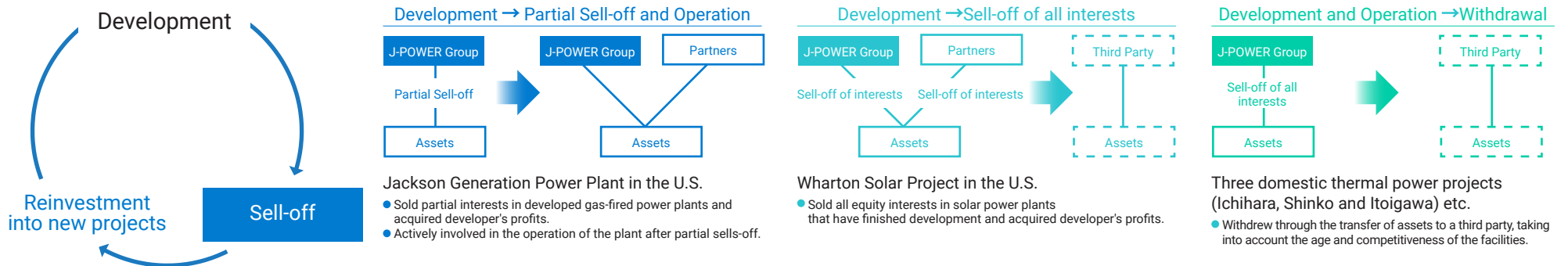


*1 Green Finance only applies to those accepted as eligible green projects

*2 An abbreviation of Sustainability Performance Target, representing a target that should be achieved to fulfill KPI

Asset management with an eye to improving capital efficiency

We are working to improve capital efficiency by not only holding assets for the long term, but also replacing our business portfolio as appropriate, for example by selling assets and reinvesting in new projects using the proceeds from the sale. Furthermore, we have begun considering the introduction of return on invested capital (ROIC) for improving capital efficiency.

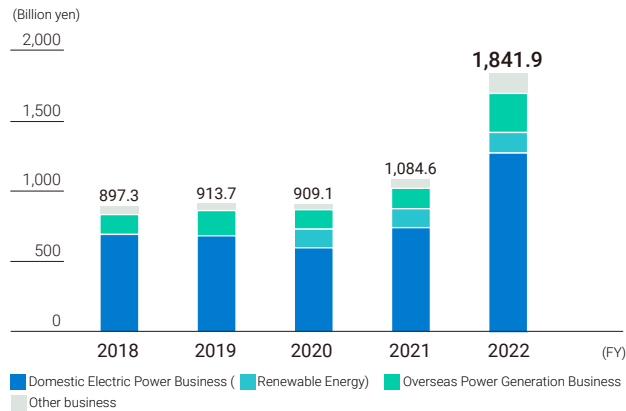


Financial and Non-Financial Highlights

These are key indicators of the Company's financial and non-financial performance.

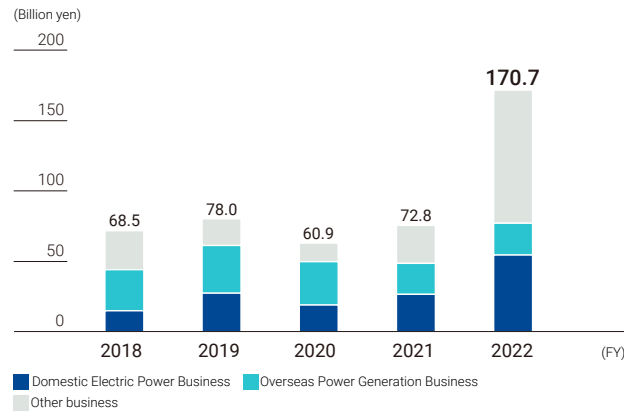
Financial Highlights

Consolidated Operating Revenue



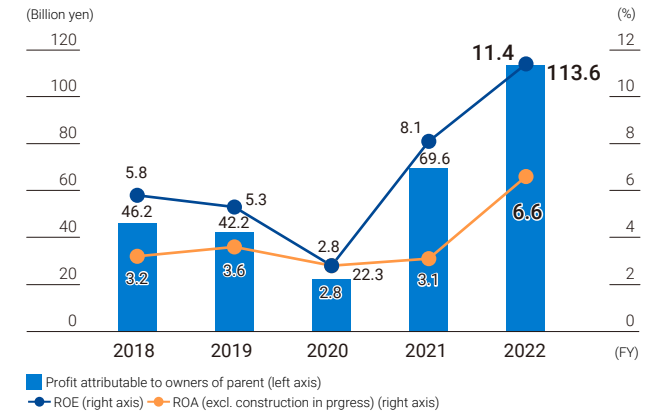
Higher electricity prices in Japan and overseas and higher coal prices from a subsidiary in Australia that owns coal mining interests led the J-POWER Group to record-high operating revenues on the back of rising resource prices in FY2022.

Consolidated Ordinary Profit



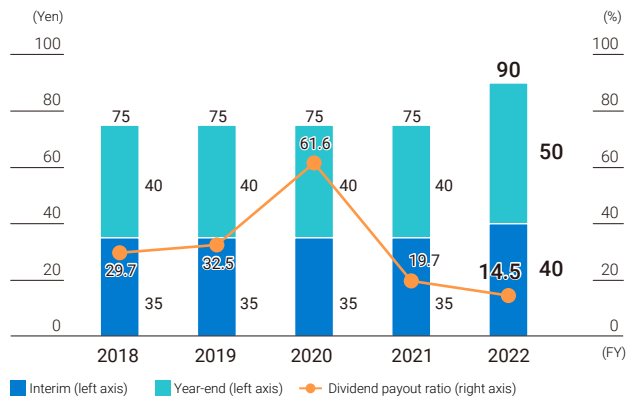
In FY2022, the Group saw record-high ordinary profit stemming from such factors as increased profit from a subsidiary in Australia that owns coal mining interests, increased gross profit from power generation due to stable operation of domestic electric power facilities, and the start of operations at the Jackson Generation Power Plant in the U.S.

Profit Attributable to Owners of Parent, ROE, ROA



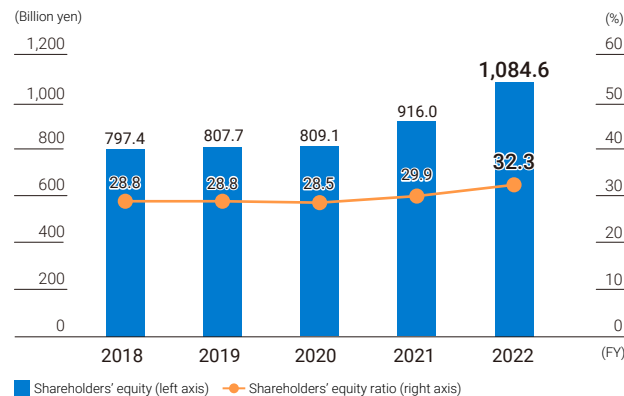
Along with the record-high ordinary profit in FY2022, profit attributable to owners of parent, also reached a record high. The decrease in FY2020 is due to losses incurred by equity-method affiliates and consolidated subsidiaries as a result of surging prices on Japan Electric Power Exchange, as well as the payment of income taxes due to the fact that tax effect accounting was not applied to the losses incurred by consolidated subsidiaries.

Dividend per share and dividend payout ratio



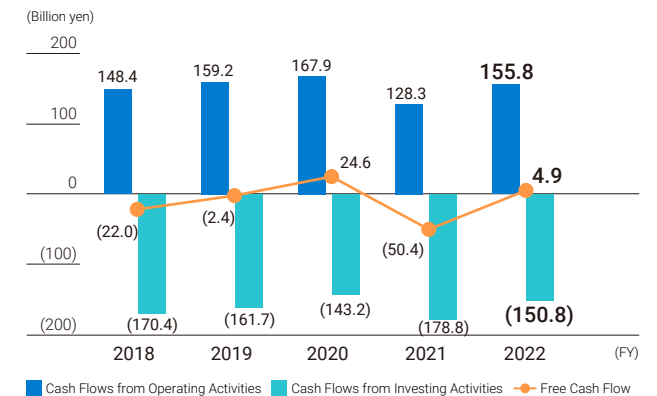
J-POWER will strive to enhance stable, ongoing returns to shareholders considering the level of profit, earnings forecasts, and its financial condition with a consolidated payout ratio of around 30%, excluding factors causing short-term profit fluctuations.

Shareholders' Equity and Shareholders' Equity Ratio



In our Medium-Term Management Plan, we set a target of 30% or more of the consolidated shareholders' equity ratio in FY2023, which we achieved ahead of schedule.

Cash Flow

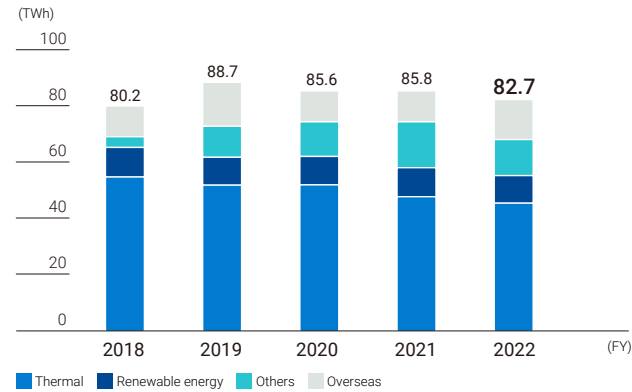


Cash flow for FY2022 increased by 55.4 billion yen to 4.9 billion yen from the previous year due to an increase in cash flow from operating activities, including increased profit before income taxes, while cash flow from investing activities decreased from the previous year due to the completion of a large overseas project.

Financial and Non-Financial Highlights

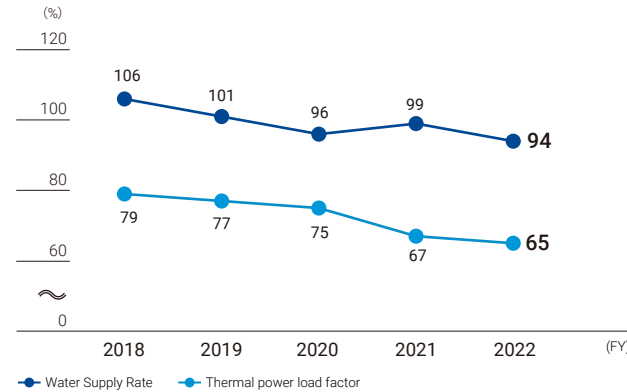
Non-Financial Highlights

Electricity Sales Volume



In FY2022, electricity sales volume from overseas operations increased due to the start of operations at the Jackson Generation Power Plant in the U.S. "Others" represents the sales volume of electricity procured from the Japan Electric Power Exchange.

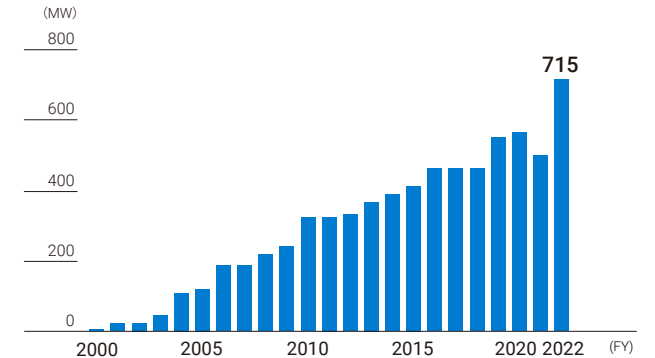
Water Supply Rate/Thermal Power Load Factor*



* Thermal power load factor is calculated on a non-consolidated basis.

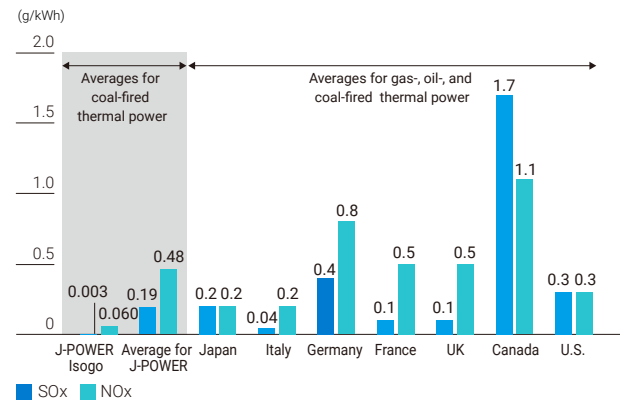
Water Supply Rate depends on factors such as weather conditions.

Wind Power Generation Capacity



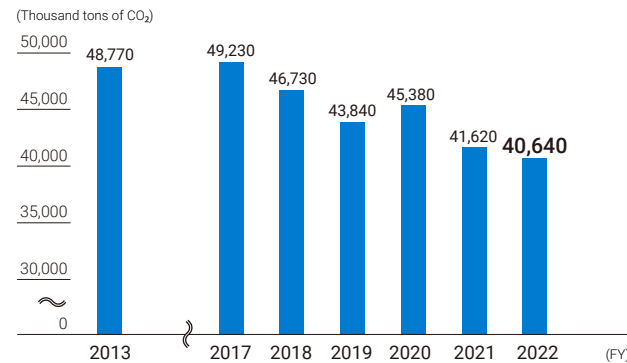
In FY2022, the Triton Knoll Offshore Wind Farm in the UK began operation, as well as two other sites in Japan.

International Comparison of SO_x and NO_x Emissions Intensity for Thermal Power Generation



Notes: 1. Emissions: OECD StatExtracts Power generated: IEA "Data and statistics"
2. Average for J-POWER and J-POWER Isogo figures (coal-fired) are FY2022 results

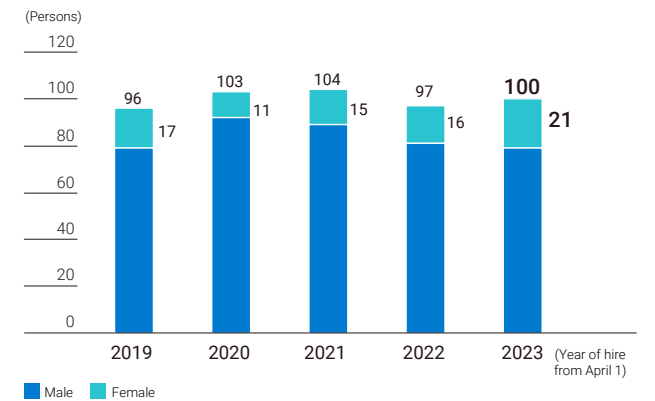
CO₂ emissions from Domestic Electric Power Business



* Aggregates CO₂ emissions generated from the Group's domestic power plants
Subsidiaries and affiliates are aggregated according to their investment ratios

Compared to FY2013, we aim to reduce CO₂ emissions by 9.2 million tons by FY2025 and 22.5 million tons by FY2030.

Number of New Graduates Hired by J-POWER



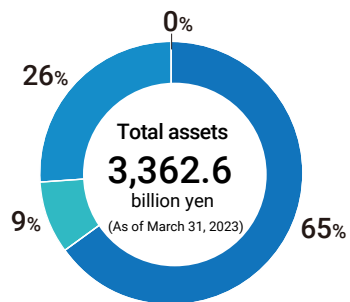
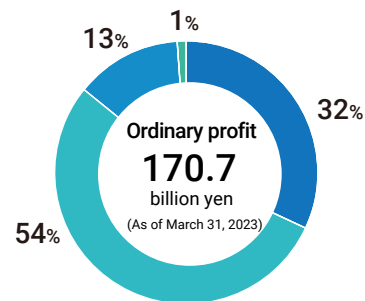
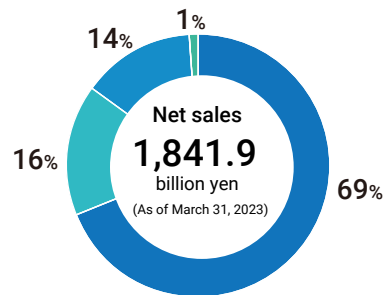
In addition to steady hiring for the purpose of sustainable growth, the Company is taking on the challenge of ensuring diversity in order to create a workplace that promotes continuous innovation. As such, we have set a goal of doubling the number of women hired in the initiatives of our Progress of J-POWER Medium-Term Management Plan published on May 11, 2022.

J-POWER Group Businesses

- The core of the J-POWER Group's business is the Electric Power Business, which includes the supply of electricity through power generation facilities and the consignment of electric power through transmission and substation facilities, and its Overseas Business.
- Our business operations are divided into four segments, including the Electric Power-Related Business and other businesses related to these segments.

Business Overview by Segment

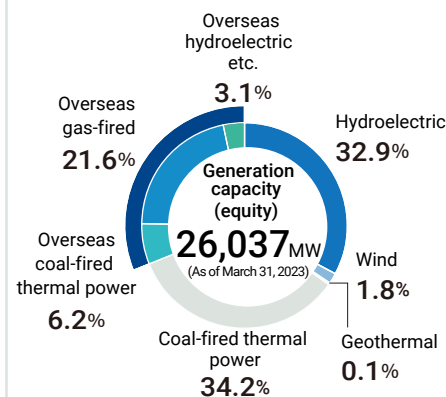
Electric Power Business Electric Power-Related Business
Overseas Business Other Business



Note: Each segment's net sales, ordinary income, and total assets are percentages of the simple sum of the unadjusted segment figures.

Global Power Generation Facilities

J-POWER's global power generation facilities have a well-balanced mix of renewable energy sources (such as hydroelectric and wind power), coal-fired thermal power and gas-fired power generation. We also own and frequency converter stations throughout Japan that connect ares. Balanced asset composition, coupled with appropriate management in response to risks, supports stable profits even amid a volatile business environment.



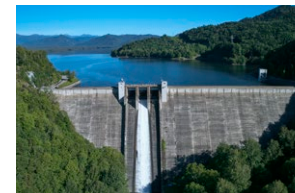
Transmission and Transformation Facilities

(As of March 31, 2023)

Power Transmission Facilities	2,410.2km
AC Transmission Lines	2,143.0km
DC Transmission Lines	267.2km
Substations (Output)	4 locations 4,301 million kVA
Frequency converter station	1 location 300 MW
AC/DC Interconnection stations	4 locations 2,000 MW

Electric Power Business

The Group engages in power generation, employing various energy sources (including renewable energy, thermal power, transmission that contributes to the wide-area operation of the entire Japanese power grid, and electric power retailing in collaboration with partner companies in Japan.



Nukabira Dam

Overseas Business

The Group engages in power generation and consulting businesses overseas.



Kaeng Khoi 2 Gas-Fired Thermal Power Plant (Thailand)



Triton Knoll Offshore Wind Farm (UK)

Electric Power-Related Business

The Group engages in businesses which support the smooth and efficient execution of the electric power business, including the maintenance of power plants and transmission and substation facilities, ownership of coal mining interests, and the importing and transportation of coal.

Major Group Companies

J-POWER Business Service Corporation
J-POWER HYTEC Co., Ltd.
J-POWER Generation Service Co., Ltd.
J-POWER Design Co. Ltd.
J-POWER Telecommunication Service Co., Ltd.

Other Business

We operate information communication businesses and environment-related businesses that leverage the Group's know-how and management resources. We are also investing in and working with startup companies to develop new businesses in the future.



PowerX, Inc.'s goal for electric carriers

J-POWER Group Businesses

Electric Power Business

Value Provided by the J-POWER Group

- Economical and stable supply of power via CO₂-free power and high-efficiency thermal power
- Contributions to ensuring energy security and avoiding regional environmental issues such as air pollution
- Contributions to wide-area power networks through means such as cross-regional interconnection facilities

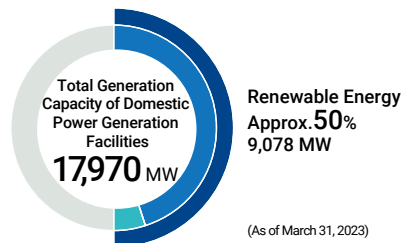
Social Issues

- Stable power supply, climate change
- Energy security
- Building wide-area power networks in Japan
- Atmospheric pollution and other local environmental issues
- Economic efficiency

Strengths

- Comprehensive technical capabilities that can be executed within the Group from development to operation
- The highest level of engineering and execution capabilities gained from involvement in global development
- Relationships of trust with local communities

Total Generation Capacity of Domestic Power Generation Facilities



Status of Domestic Renewable Energy Development (As of March 31, 2023)

	Wind	Hydroelectric	Geothermal	Solar
FY2022 Development Results	19 MW	17 MW	—	—
Under construction/Preparing for construction	339 MW	5 MW	17 MW	—
Commencement of surveys, etc.	Max. about 800 MW*1	—	—	32 MW

Note: The above output figures are based on the Group's equity stake and include new developments and replacements.

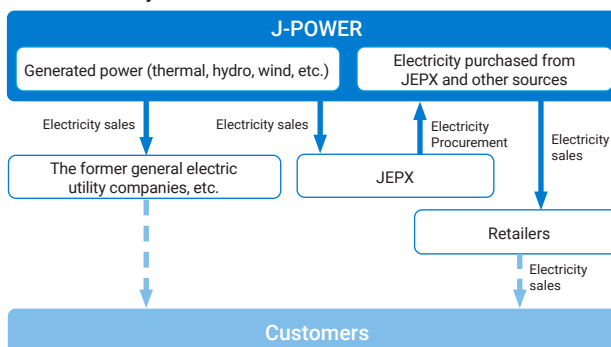
*1 Environmental impact assessment procedures are underway. Does not include offshore wind power in general sea areas.

Net Sales/Segment profit/Assets

(Billions of yen)	2018	2019	2020	2021	2022
Net sales	695.6	686.0	733.4	878.8	1,420.2
Segment profit	14.9	27.4	19.0	26.6	54.5
Assets	2,006.1	2,040.5	2,100.3	2,199.2	2,299.0

Note: Segment income is ordinary profit. The total amount of each segment's net sales, profit, and assets is not equal to consolidated net sales, consolidated ordinary profit, and assets in each fiscal year due to adjustments such as the elimination of inter-segment transactions.

Flow of electricity sales



Electric power sales

J-POWER Group generates electricity from our diverse sources, including renewable energy and thermal power, and sells it to the former general electric utility companies and the Japan Electric Power Exchange (JEPX) to ensure a stable supply of electricity in Japan. J-POWER also sells electricity procured from JEPX to retail electricity suppliers.

Charges for electric power

A baseline charge plus a metered charge based on the quantity of electricity sold make up the structure of the sales charges to EPCOs. For the portion equivalent to fuel costs, which account for the majority of the metered charge for thermal power production facilities, we have introduced a system that reflects fluctuations in market conditions related to fuel procurement as appropriate. Between the contract's parties, specific terms and conditions are discussed and updated as necessary.

The sales price of the power purchased from JEPX is also established by contract with the retailers and is adjusted as necessary.

Power Transmission Business

The reasonable cost estimated to be necessary for the transmission business as a regulated sector is added to the reasonable profit margin to determine rates connected to the transmission business.

J-POWER Group Businesses

Power Generation Business

Renewable Energy

We are utilizing our vast knowledge and technology for new development as one of Japan's leading providers of renewable energy. Older hydroelectric and wind power plants are aging, reaching 60 and 20 years of service, respectively. We are gradually retrofitting these plants with state-of-the-art technology. Upgrading them with more advanced machinery will enable the generation of more CO₂-free electricity.

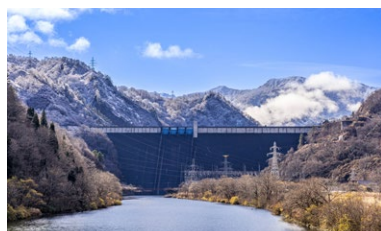
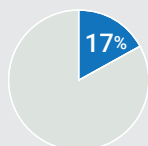
	FY2021	FY2022
Electricity sales volume (Hydroelectric, wind)	10.3 billion kWh	9.8 billion kWh
Net sales	134.5 billion yen	146.0 billion yen

Hydroelectric Power

Over the past 70 years or so, the J-POWER Group has engaged in the development and operation of hydroelectric power plants. Since hydroelectric power can be started quickly and its output can be adjusted, it plays an important role as a source of regulated power. With no available land left for large-scale developments in Japan, the Group is engaged in increasing the amount of power through the development of small hydroelectric power plants and the comprehensive renewal of main facilities.

Share of Hydroelectric Power

Generation Capacity **No. 2** in Japan
8,577 MW (As of March 31, 2023)



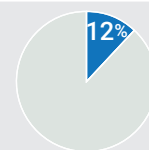
Tagokura Dam

Wind Power

The J-POWER Group began engaging in the wind power generation business early in Japan and, even now, is engaged in many development projects while also advancing facility upgrades at its initial operation sites. In terms of offshore wind power, J-POWER has gained expertise through its participation in the Triton Knoll Offshore Wind Farm project in the United Kingdom which started commercial operation in 2022. The Group is also working on the Hibikinada Offshore Wind Farm Project while conducting surveys at multiple sites in Japan.

Share of Wind Power

Generation Capacity **No. 2** in Japan
477 MW (As of March 31, 2023)



Nikaho No. 2



A rendering of Kitakyushu Hibikinada Offshore Wind Farm

Geothermal Power

Geothermal energy is a clean domestically produced energy source that emits no CO₂ and can be utilized as a baseload power source since it is not influenced by weather conditions. The Group operates the Wasabizawa Geothermal Power Station, which boasts one of Japan's largest generation capacities of geothermal power. Following more than 40 years of use since 1975, the Onikobe Geothermal Power Plant was refurbished and put back into service in April 2023. The Company is currently constructing the Appi Geothermal Power Plant and carrying out research in the Takahinatayama region.



Onikobe Geothermal Power Station

Solar Power

By utilizing land owned in Japan, J-POWER is also attempting to develop solar power generation, which has a proven track record in the U.S. and other nations. Both the Kitakyushu Hibikinada and the Himeji Oshio Solar projects are now undergoing large-scale solar power plant construction.



J-POWER Group Businesses

Thermal Power

Coal is a crucial resource for energy security in Japan, a country with limited energy resources, as it can be easily stored and can be mined in a large number of areas. Geopolitical risks are thought to be lower for coal than for other fuels because it is mostly obtained from politically stable countries like Australia and Indonesia, which are the major exporters of the coal used in our thermal power facilities. Additionally, regarding the design and operation of the J-POWER Group's power plants, we contribute to the stable supply of electric power while limiting emissions of atmospheric pollutants such as SOx and NOx through our advanced technologies as well as reducing CO₂ emissions by adopting the most efficient technologies during construction and utilizing mixed combustion with biomass fuels. Furthermore, by upcycling our existing coal-fired power plants, we aim to convert to hydrogen power generation. The first step toward this goal is our work in Nagasaki Prefecture on the GENESIS Matsushima Plan.

p.25 The GENESIS Matsushima Plan

	FY2021	FY2022
Electricity sales volume	47.9 billion kWh	45.6 billion kWh
Utilization rate	67%	65%

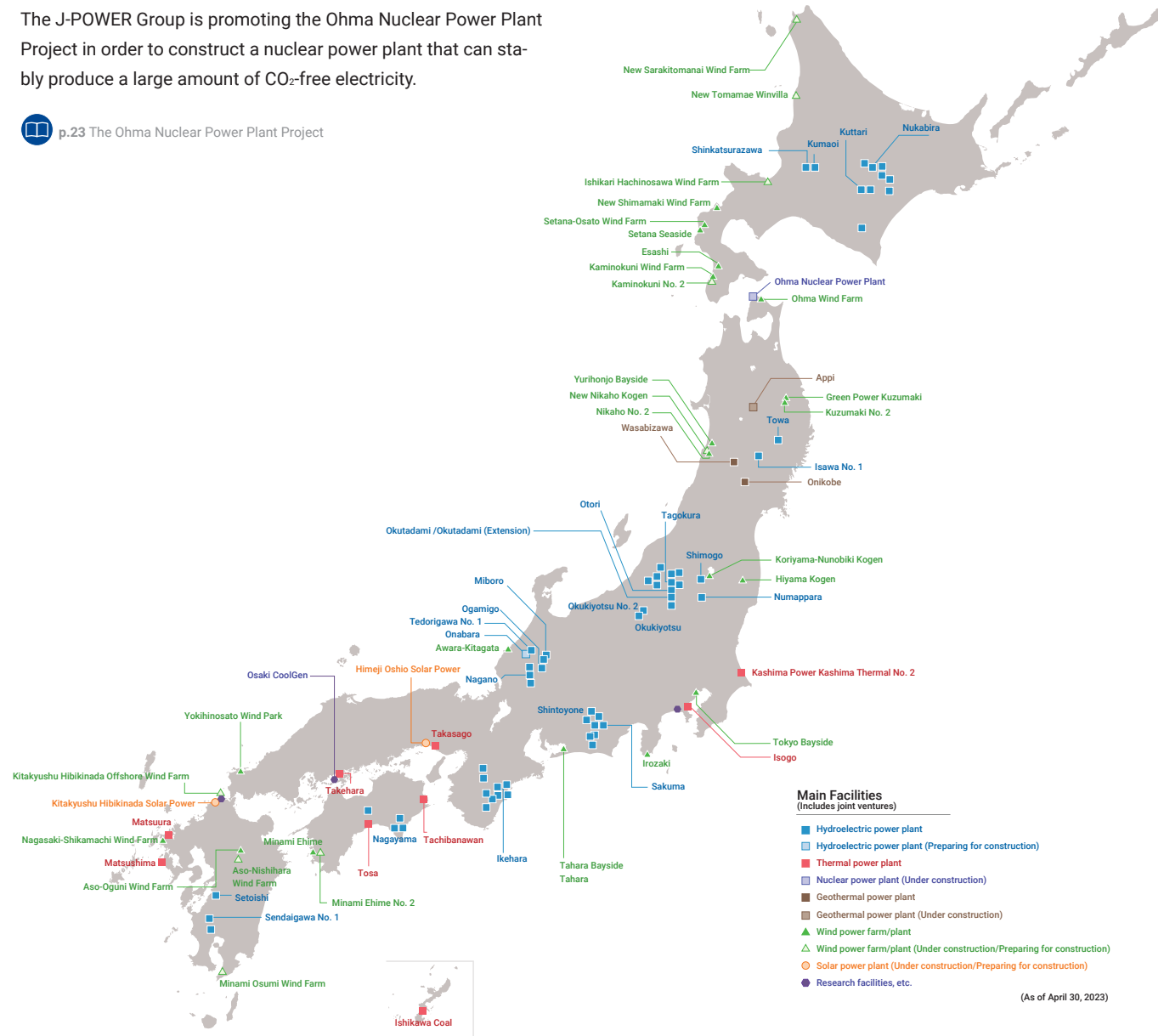


Takehara Thermal Power Plant New Unit No. 1

Nuclear Power Generation

The J-POWER Group is promoting the Ohma Nuclear Power Plant Project in order to construct a nuclear power plant that can stably produce a large amount of CO₂-free electricity.

p.23 The Ohma Nuclear Power Plant Project



J-POWER Group Businesses

Transmission Business

J-POWER Transmission Network Co., Ltd. (J-POWER Transmission) is a company which is independent of the J-POWER Group's power generation and retailing divisions, handling its transmission business from a neutral position. J-POWER Transmission owns nine substations and converter stations, and approximately 2,400 km of transmission lines across Japan. J-POWER Transmission interconnects regions and fulfills a major role in the cross-regional operation of Japan's overall power grid.

In addition, as per a plan formulated by the Organization for Cross-regional Coordination of Transmission Operators (OCCTO), J-POWER Transmission is moving ahead with preparations for the construction of the Sakuma Frequency Converter Station, which connects the different frequencies of eastern Japan (50 Hz) and western Japan (60 Hz), to increase its converter capabilities from 300 MW to 600 MW. Construction is scheduled to be completed in FY2027.



Minami Kawagoe Substation



Sakuma East Trunk Line

Submarine DC transmission lines (HVDC)

To supply renewable energy to major consumption areas in Hokkaido, Tohoku, Kyushu, and other regions where it is being introduced and expanded, the master plan for the electric power network calls for the development of submarine DC transmission line. Similar facilities have been erected by J-POWER Transmission for the Kii Channel HVDC Interconnection Line and the Hokkaido-Honshu HVDC Interconnection Line, both of which are currently in use. As is evident from our track record, we boast unique and cutting-edge knowledge and skills.

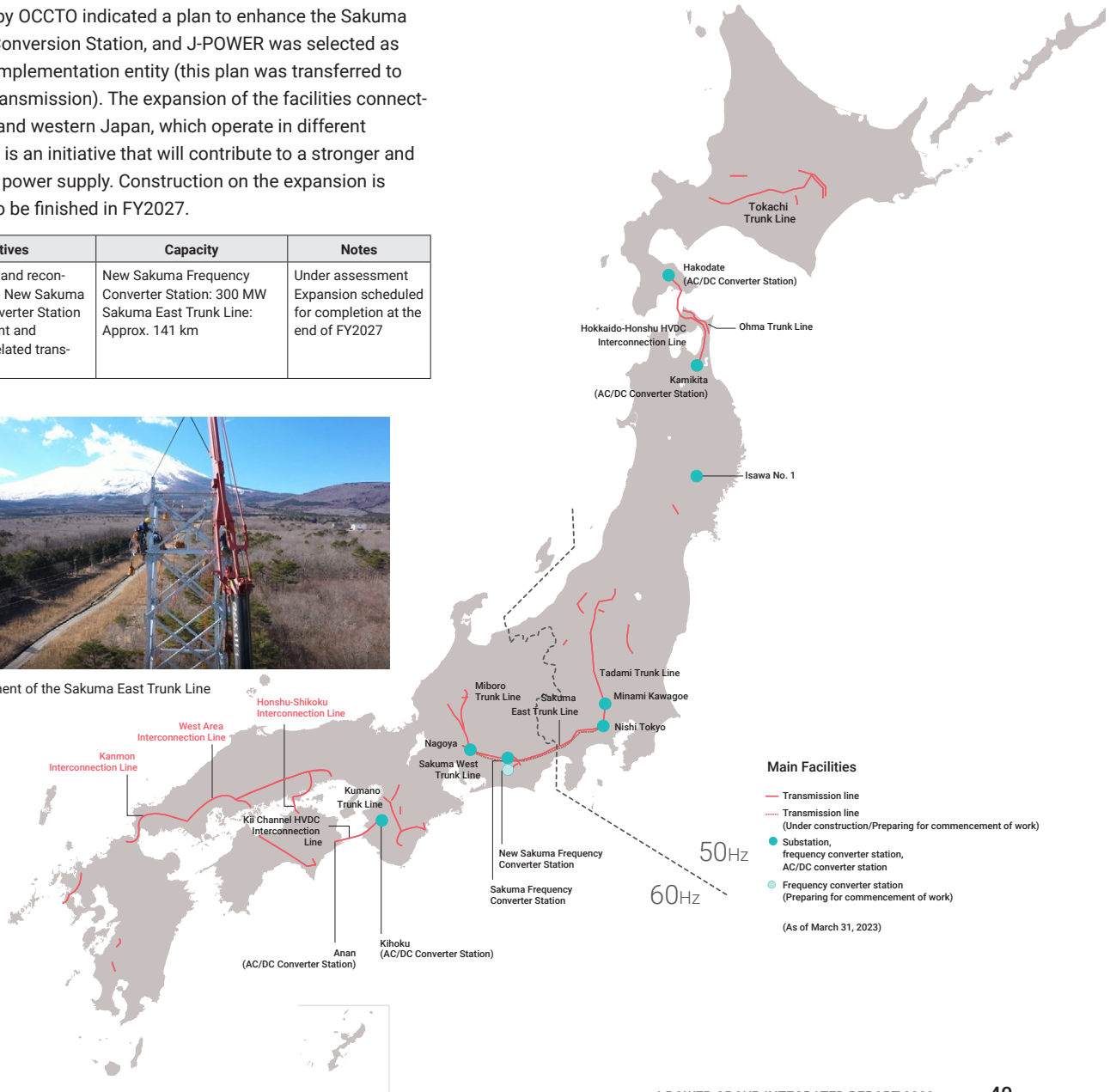
Sakuma Frequency Converter Station Expansion Plan

In June 2016, the Cross-regional Network Development Plan formulated by OCCTO indicated a plan to enhance the Sakuma Frequency Conversion Station, and J-POWER was selected as the project implementation entity (this plan was transferred to J-POWER Transmission). The expansion of the facilities connecting eastern and western Japan, which operate in different frequencies, is an initiative that will contribute to a stronger and more stable power supply. Construction on the expansion is scheduled to be finished in FY2027.

Initiatives	Capacity	Notes
Reinforcement and reconstruction of the New Sakuma Frequency Converter Station and replacement and expansion of related transmission lines	New Sakuma Frequency Converter Station: 300 MW Sakuma East Trunk Line: Approx. 141 km	Under assessment Expansion scheduled for completion at the end of FY2027



Replacement of the Sakuma East Trunk Line



J-POWER Group Businesses

Overseas Business

Value that the J-POWER Group Provides

- Contributes to stable power supply overseas through the consulting business and power plant development
- Contributes to reducing CO₂ emissions and solving environmental issues through renewable energy development and the construction of environmentally friendly, cutting-edge high-efficiency thermal power plants overseas

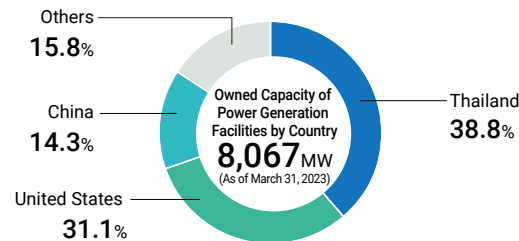
Social Issues

- Stable power supply overseas
- Climate change
- Atmospheric pollution and other local environmental issue

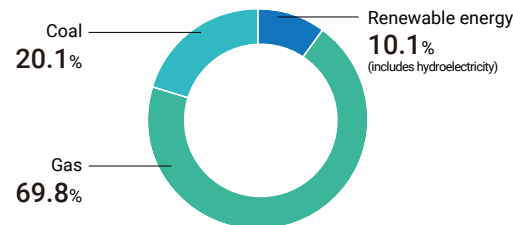
Strengths

- Project development capabilities
- Project promotion capabilities
- Ability of management to control risk and replace assets in response to changes in the business environment to increase profitability and sustainability

Owned Capacity of Power Generation Facilities by Country



Facilities by Energy Source



Net Sales/Segment income/Assets

	(Billions of yen)					(FY)
	2018	2019	2020	2021	2022	
Net sales	141.0	179.0	138.0	145.1	277.5	
Segment profit	29.2	33.9	30.8	22.0	22.6	
Assets	657.1	680.9	679.1	773.0	918.3	

Note: Segment income is ordinary profit. The total amount of each segment's net sales, profit, and assets is not equal to consolidated net sales, consolidated ordinary profit, and assets in each fiscal year due to adjustments such as the elimination of inter-segment transactions.

Overseas Power Generation Business (As of March 31, 2023)

In operation	7 countries	37 projects	8,067 MW owned capacity
Of which are renewable energy projects	5 countries	13 projects	819 MW owned capacity
Under construction/development	4 countries	7 projects	2,961 MW owned capacity

Overseas Consulting Business

Leveraging the experience and technical prowess acquired through its domestic electric power business, the J-POWER Group's consulting business includes basic design study, feasibility studies, design, construction oversight, and transfer of environmental technologies development of power plants and transmission and transformation facilities around the world. Since its first project in 1962, the Group has conducted 375 projects in 64 countries and regions.

Overseas Consulting Business

64 countries, 375 projects (as of March 31, 2023)

Overseas Power Generation Business

When the Group first began its overseas power generation business in 1997, it primarily participated in the construction of power plants or plant operations through relatively small-scale investment. Since that time, however, the Group has gradually expanded this business, shifting from acquiring interests in existing high-quality projects to greenfield development, mainly in Thailand, the United States, China, and other Asian countries. In addition, the Group has recently participated in projects from the initial stage of development with the aim of expanding development opportunities and securing profits as project developer. Taking part in greenfield projects as well as projects from the initial stage of development carries with it comparatively high risk, but profitability commensurate with this risk can be expected.

All three of the significant projects that we have been working on over the medium- to long-term will begin operations in FY2022. In response to changes in the business environment, we aim to continue creating new projects and rebalancing our portfolio of power production assets from the perspectives of profitability and sustainability.

Through its advanced technical and project organization capabilities, the J-POWER Group aims to realize high profitability while minimizing risk.

J-POWER Group Businesses

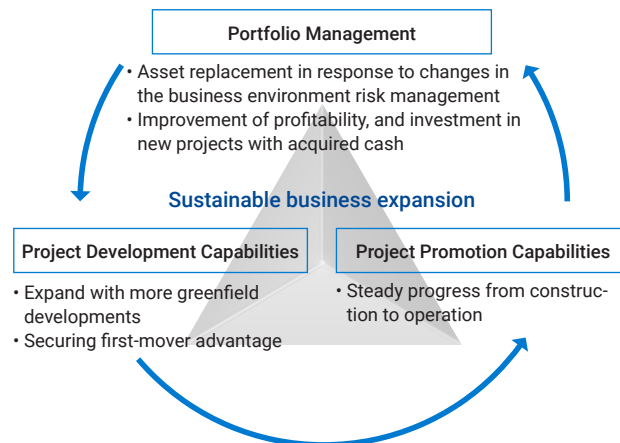
Renewable Energy Projects

The J-POWER Group is a renewable energy front runner with one of the largest installed capacities in Japan centered on hydroelectric and wind power, and in recent years we have been focused on renewables in development projects overseas.

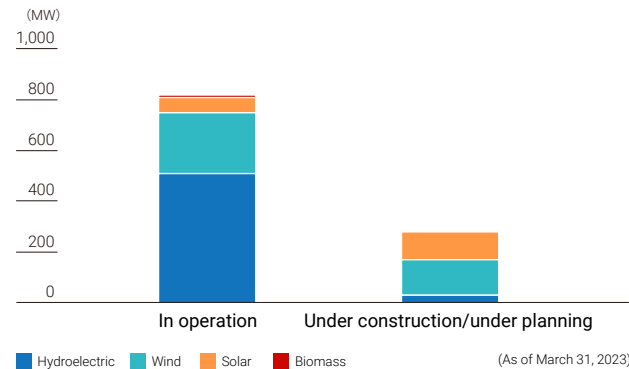
Triton Knoll Offshore Wind Farm Project, in which we have been involved from the construction planning stage, began commercial operation in April 2022. In the U.S., we have been contributing to the expansion of renewable energy through our participation in developing a solar power project since 2020. Meanwhile, we are developing a pumped storage and wind power project together with Genex Power Limited in Australia.

Strengths of the Overseas Business

In its overseas business, the J-POWER Group has earned revenue as both an asset owner and as a developer while gaining a wide range of knowledge by developing projects from the greenfield, steadily promoting projects under construction, and continuing stable operations. Based on these revenues and knowledge, we are developing renewable and other energy sources to meet the needs of different regions around the world.



Overseas Renewable Energy (Owned Capacity)

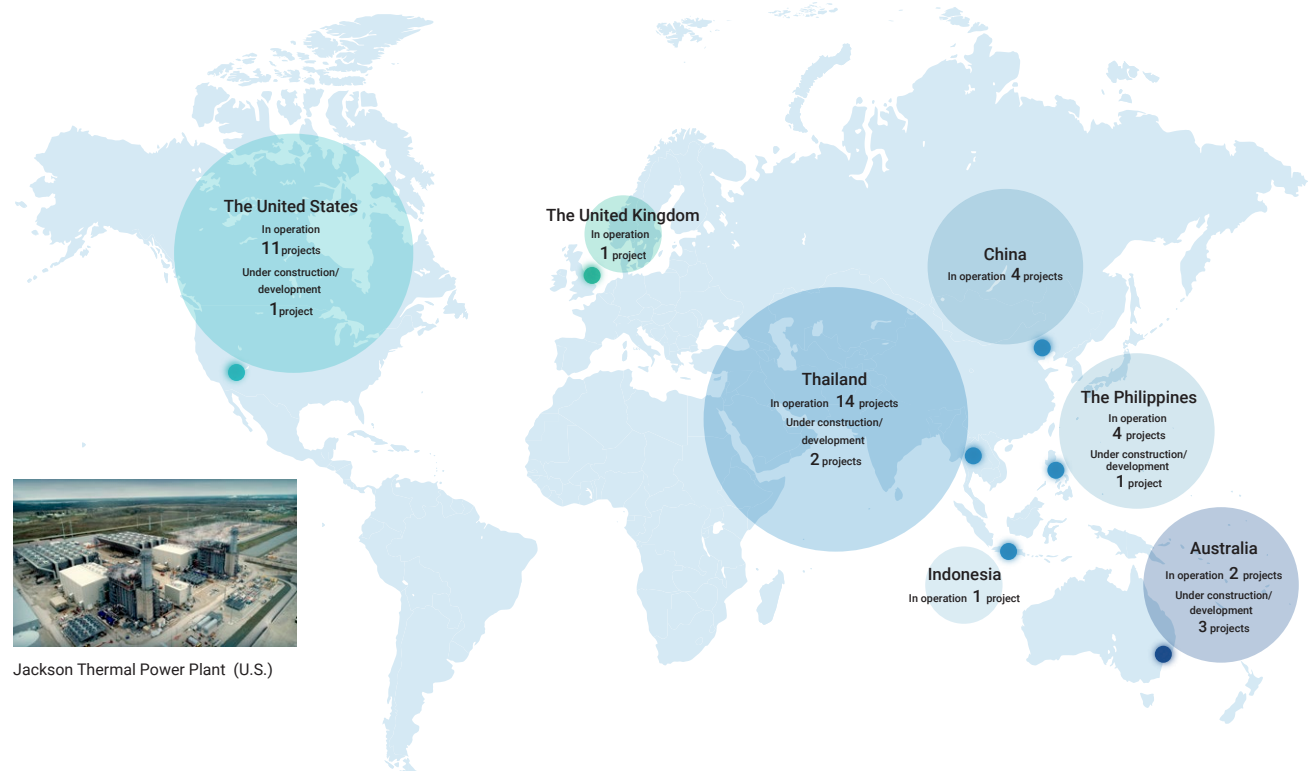


Overseas Power Generation Business (As of March 31, 2021)

In operation 37 projects
Under construction/development 7 projects

Overseas Consulting Business

Project locations 64 countries
No. of projects by country/region 375 projects



J-POWER Group Businesses

Electric Power-Related Business

Value that the J-POWER Group Provides

- Contributes to the stable operation of electric power facilities, supported by long-term operation and maintenance technologies
- Conducts stable long-term fuel procurement based on diversified sources

Social Issues

- Stable power supply
- Energy security

Strengths

- Maintenance know-how accumulated over many years as a leader in coal-fired power and renewable energy production
- A work environment that nurtures professional human resources through organized human resource development programs and global standards

Net Sales/Segment Income/Assets

(Billions of yen)

(FY)

	2018	2019	2020	2021	2022
Net sales	455.3	400.5	374.1	243.9	321.7
Segment profit	26.4	18.5	12.2	25.8	92.8
Assets	275.5	244.5	240.3	252.8	308.6

Note: Segment income is ordinary profit. The total amount of each segment's net sales, profit, and assets is not equal to consolidated net sales, consolidated ordinary profit, and assets in each fiscal year due to adjustments such as the elimination of inter-segment transactions.

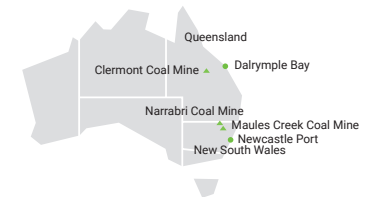
Electric Power Facilities Maintenance

In order to support its nationwide power generation and transformation businesses, the J-POWER Group has established maintenance subsidiaries that are experts in hydroelectric power, power transmission, wind power, and thermal power, including operation. Additionally, the J-POWER Group has established a system that, through its accumulated knowledge and experience, enables more efficient and reliable maintenance. J-POWER Generation Service Co., Ltd. is a single firm that handles all operational responsibilities related to thermal power, including operation, maintenance, and other related tasks.

J-POWER Business Service Corporation <ul style="list-style-type: none"> • Operation and management of welfare facilities • Import and transport of coal 	J-POWER Generation Service Co., Ltd. <ul style="list-style-type: none"> • Operation and maintenance of thermal power plants 	J-POWER HYTEC Co., Ltd. <ul style="list-style-type: none"> • Maintenance of hydroelectric power plants • Maintenance of electric power transmission and substation facilities
J-POWER Design Co., Ltd. <ul style="list-style-type: none"> • Research, planning, and design for electric power facilities • Research, planning, and design for rivers and dams 	J-POWER Telecommunication Service Co., Ltd. <ul style="list-style-type: none"> • Construction, maintenance and management of telecommunication facilities at power plants • Design, construction and maintenance of mobile communication facilities 	J-Wind Service Co., Ltd. <ul style="list-style-type: none"> • Maintenance of wind power generation facilities

Investments in Coal Mines

We have been investing in Australian coal mines since 1980 and currently hold interests in three coal mines in order to provide consistent, long-term supplies of high-grade coal as fuel for thermal power generation.



Coal Mining Projects (as of December 31, 2022)

Coal Mine	Location	Outport	2022 Sales Volume	Vested Interest	Coal Production Start
Clermont	Queensland, Australia	Dairymple Bay (Hay Point Port)	9.03 million tons	22.2%	2010
Narrabri	New South Wales, Australia	Newcastle Port	5.88 million tons	7.5%	2012
Maules Creek	New South Wales, Australia	Newcastle Port	9.11 million tons	10%	2014

Biomass Production

The J-POWER Group is working to reduce CO₂ emissions through the mixed combustion of biomass fuels and sewage at coal-fired power plants. Since 2022, we have also been working to further expand the use of biomass, including 10% mixed combustion at Takehara Thermal Power Plant New Unit No. 1. From the perspective of sustainability and stably procuring biomass fuel, the Group is also engaged in the business of producing sustainable biomass fuels such as woody fuels employing unused forest residues.



Wood pellets

Wood biomass fuel production business (as of March 31, 2023)

Project Name	Location	Project Overview	Equity Share	Operation Start
Miyazaki Wood Pellet	Kobayashi City, Miyazaki Prefecture	A business with an integrated system, from setting up companies to manufacture wood pellets from forest offcuts through to the use of pellets for mixed combustion in J-POWER's coal-fired thermal power plants (Pellet production capacity: 25,000 tons/year)	98.3%	2011

J-POWER Group Businesses

Other Business

Value that the J-POWER Group Provides

- Contributes to reducing CO₂ emissions through biomass fuel production business

Social Issues

- Climate change
- Local environmental issues

Strengths

- An innovative corporate culture that integrates new businesses and technologies into old ones
- A vantage point that allows the selection of businesses and technologies that can leverage synergies with a wide range of electric businesses as the core of the Company's business

Net Sales/Segment Income/Assets

	(FY)				
(Billions of yen)	2018	2019	2020	2021	2022
Net sales	30.3	22.1	18.4	21.0	29.3
Segment profit	1.3	0.5	1.0	1.2	1.8
Assets	18.2	15.6	16.8	17.9	15.8

Note: Segment income is ordinary profit. The total amount of each segment's net sales, profit, and assets is not equal to consolidated net sales, consolidated ordinary profit, and assets in each fiscal year due to adjustments such as the elimination of inter-segment transactions.

Telecommunications Network Business

Communication networks are essential infrastructure for operating power plants, as well as transmission and substation facilities, meaning that reliability is of paramount importance. J-POWER Telecommunication Service Co., Ltd. utilizes the communication network technology cultivated in the electric power business to carry out construction work on mobile phone wireless base stations. In response to the specifications and requests presented by telecommunications carriers, J-POWER carries out a range of work in a one-stop package from installation negotiations and design to construction and testing of mobile phone wireless base stations.



Fertilizer Business

The J-POWER Group's fertilizer business Kaihatsuhiryō Co., Ltd. recycles coal ash (ash formed in pulverized coal combustion) generated from coal-fired power plants, manufactures and sells it as fertilizer. By combining coal ash with caustic potash and magnesium raw materials then firing at high temperatures, J-POWER has commercialized the world's first potassium silicate fertilizer, which is both environmentally friendly and highly beneficial as a fertilizer. High-quality fertilizer is being delivered to farmers nationwide through the Japan Agricultural Cooperatives Group (JA Zen-Noh).



Potassium silicate fertilizer (product)

Investments in startups companies

We invest directly in startup companies and take on the challenge of fusing the expertise of the J-POWER Group with the technologies and ideas of the startup companies in order to be among the first to incorporate the remarkable development of cutting-edge technology into the electric power business.

PowerX, Inc.

In addition to producing high-performance and competitively priced battery products made in Japan, we are promoting an electric ship project in which batteries will be mounted on ships to carry electricity generated by the developing offshore wind power industry.

Kyoto Fusioneering Ltd.

This startup company from Kyoto University has the goal of employing nuclear fusion, the world's most powerful energy source, to resolve global issues and provide humanity a new future.

